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Address

THE DEVELOPMENT OF OUR KNOWLEDGE OF EXOPHTHALMIC GOITER.[*]

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There are few diseases in regard to which so many *errors and misconceptions* regarding early history and nomenclature prevail in text-books and journal articles as in regard to exophthalmic goiter. For example, in a most scholarly journal, a prominent writer says that Basedow "was a physician of Magdeburg"; that Morgagni "recognized the disease called after the former, in 1761"; that Parry "published observations on it in 1786"; that Flajani "also published some."

This provokes the question why editors do not prevent the printing of such material? It is generally admitted that in practical articles historical details are not desirable, but if it is thought proper to admit them into periodical literature, at least the misstatement of obvious and well-known facts should be avoided. To one who is merely reporting a series of cases it is immaterial whether any of the statements quoted above are true or not, but if the residence of an author is stated at least it should be correctly given.

Historical details are not only of interest; they are also instructive. It is, therefore, worth while at times to consider them, and even to revise them according to the knowledge of the present. For historical facts, even when authenticated, do not look the same at different epochs, and medical, like political history, has various points of view.

I have no intention of trying to cover all the data possible, but shall rather attempt to present certain important original articles, partly on account of their value as documents, partly to put them in their proper relation to each other and to the reader at the present day, and to the history of the subject.

I have *not gone* beyond Morgagni[1] myself, since the early references are not important. But neither from the references of Buschan nor from other sources could I find what I thought were cases of the kind under consideration in Morgagni's works. At all events, we have no ground for saying that the founder of pathologic anatomy recognized the disease in 1761, for in that year his book was published.

The first report I shall consider is that of Flajani.[2] This is almost always mentioned by recent writers, and has led some of Flajani's countrymen (Pensuti, 1887, Grosso, 1891) to call the disease after him. On account of the obscurity of the original account, I give part of it in a translation kindly furnished me by Dr. Pfender, from the copy in the library of the Surgeon-General.

In a young Spaniard after three years of residence in this country, appeared a tumor in the anterior part of the neck, which in the course of four months increased to a considerable size, so that it occupied the anterior and the lateral part of the neck. He remained under treatment for seven months, not so much on account of the tumor as on account of the difficulty which he had in breathing and on account of an extraordinary palpitation in the region of the heart. The above-mentioned symptoms compelled him to abandon his occupation as painter. The young man, aged 22, realized the seriousness of his condition and applied for relief urgent reduction or removal of the tumor, as it seemed to him that the pressure of the tumor on the subjacent parts was increasing the difficulty he had in breathing. This was the history which the physician gave me when I was called. At the examination of the tumor I found it of considerable size and as if divided into two parts by a kind of fissure. It presented, externally, the natural color, only the veins were turgid and as if varicose; it was not painful to the touch, though the pressure on it, with the fingers, rendered respiration more difficult. He was run down and emaciated from the frequent venesections to which he was obliged to have recourse at least once a month. The pulse was irregular but not febrile.

Having made a detailed examination, I confined myself to the treatment of the tumor. The thyroid gland was certainly the seat of the trouble, being filled with an acrid liquid (humor). I also found a swelling in the cellular tissue which *surrounded it, a circumstance which contributed not a little* to render the tumor more extensive. The trouble being such, the curative treatment had to be directed to the resolution of the stagnant humor. For this purpose I applied a double compress saturated with cold vinegar, strengthened by a dose of sal ammoniac. This, after twenty days, visibly decreased the tumor by at least one-third: the patient breathed with less difficulty, and the monthly withdrawal of blood was not necessary. Besides this I had him apply, during the night, a strip of linen of the width of the tumor, with the following liniment: white ointment one ounce, spirits of wine (alcohol) one-half ounce and two-eighths ounce of camphor, the whole mixed and reduced to the consistency of a salve. During *the day he continued to* make use of the vinegar application mentioned above. With the simple application of these remedies I obtained the complete resolution of the tumor in four months. All the symptoms which accompanied the trouble diminished in proportion to the diminution of the tumor. The palpitation disappeared and he soon took up again his occupation as painter, which he practiced until he left Rome, five years after the cure.

A girl, aged 24 years, of robust temperament and regular menstruation, came to me for examination of a tumor which she had on the anterior part of the neck and which resembled in size and form a small lemon. The skin covering it was of a normal color, but rather hard, and the tumor extended from the thyroid gland to the jugulum. She stated that she had used all known remedies which instead of decreasing had rather increased the tumor so that the girl feared she would have this deformity all her life. From the examination I learnt that she was of a hereditary scrofulous family, to which cause the tumor might be ascribed. To reduce the enlargement I prescribed two ounces of bitter herb juice every morning on an empty stomach. after having drunk a cupful of milk with an infusion of *dogswort* (dog's grass). Locally I applied the usual vinegar and the liniment as above mentioned. I continued this treatment for forty days and the only advantage I gained was that the tumor did not increase in size. I then used inunction of the volatile liniment saturated with a good dose of camphor and a poultice of linseed boiled with vegetomineral water. In one month the tumor diminished by one-half, but the same treatment applied for another twenty days was without any further effect. I then used *a light mercurial inunction which, continued for forty* days, reduced the gland almost to the natural condition, and in this state it remained for seven years, when I saw her last.

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[*] *President's Address, Meeting of the Medical Library Association, Chicago, June 1, 1908.*

[1] 1. De sed. et causis morb., Cap. XXI, Art. 36; Cap. XVII, Art. 19; Cap. XXIII, Arts. 4 and 6.

[2] 2. Collezione d'osservazioni, e reflessioni di chirurgia, iii, 270-286.

There are only these two cases. The first patient, a man of 22, had a bilateral goiter, with palpitation, dyspnea and emaciation; but the dyspnea was ascribed by the author to the tumor, the emaciation to the loss of blood from monthly venesections. It seems natural, then, to assume that the palpitation and the "irregular but not febrile pulse" were due to the same cause.

Complete resolution of the tumor, with disappearance of the symptoms, followed external application of sal ammoniac, camphor, vinegar and alcohol.

The second patient, a girl of 24, "of robust temperament and regular menstruation," had a small goiter. No other symptoms are mentioned, and the patient also recovered under local treatment, including mercurial inunctions.

Judging from this, it does not seem rational to continue to refer to Flajani as a contributor to the knowledge of exophthalmic goiter. His remarks on the surgical treatment of goiters are more definite and show him as an original thinker.

The next important writer, the first to describe a case of exophthalmic goiter clearly and adequately, was Caleb Hillier Parry. He is the "old Bath physician" of Osler. Born in 1755, he took his degree at Edinburgh in 1778, and settled in Bath in 1779. He was made F.R.S. *He was an indefatigable student and notetaker,* and after he was paralyzed, in 1816. he continued to read and to dictate. He was one of the first modern students of the arterial pulse and wrote one of the epoch-making works on angina pectoris. He was a fine and elevated character. a man of handsome presence and great charm of manner. He was the friend of such men as Burke, Windham. Jenner and John Hunter, *and the father of Sir W. E. Parry. the Arctic explorer.*

Parry's contribution to the literature on exophthalmic goiter is generally assigned to his "Collected Writings," published after his death (1822). in 1825, but he mentioned the "frequent coincidence, whether as cause or effect. between enlargement of the thyroid and cardiac disease," in his "Elements of Pathology and Therapeutics,"[3] published in 1815.

Parry's account of his first case, seen in 1786. is so interesting that I shall give it in full. Incidentally let me call attention to the treatment. Parry carried out the therapeutic modes of the day with great thoroughness.

ENLARGEMENT OF THE THYROID GLAND IN CONNECTION WITH ENLARGEMENT OR PALPITATION OF THE HEART.

CASE 1.—There is one malady which I have in five cases seen coincident with what appeared to be enlargement of the heart, and which so far as I know, has not been *noticed.* in that connection, by medical writers. The malady to which I allude is enlargement of the thyroid gland.

The first case of this coincidence which I witnessed was that of Grace B., a married woman, aged 37, in the month of August. 1786. Six years before this period she caught cold in lying in, and for a month suffered under a very acute rheumatic fever; subsequently to which, she became subject to more or less of palpitation of the heart, very much augmented by bodily exercise. and gradually increasing in force and frequency till my attendance, when it was so vehement, that each systole of the heart shook the whole thorax. Her pulse was 156 in a minute, very full and hard, alike in both wrists. irregular as to strength. and intermitting at least once in six beats. She had no cough, tendency to fainting, or blueness of the skin. but twice or thrice had been seized in the night with a sense of constriction and difficulty of breathing, which was attended with a spitting of a small quantity of blood. She described herself also as having frequent and violent stitches of pain about the lower part of the sternum.

About three months after lying in, while she was suckling her child, a lump about the size of a walnut was perceived on the right side of her neck. This continued to enlarge till the period of my attendance, when it occupied both sides of her neck, so as to have reached an enormous size, projecting forwards before the margin of the lower jaw. The part swelled was the thyroid gland. The carotid arteries on each side were greatly distended; the eyes were protruded from their sockets. and the countenance exhibited an appearance of agitation and distress, especially on any muscular exertion, which I have rarely seen equalled. She suffered no pain in her head, but was *frequently affected with giddiness.*

For three weeks she had experienced a considerable degree of loss of appetite and thirst. and for a week had edematous swelling of her legs and thighs, attended with very deficient urine, which was high-colored, and deposited a sediment. Until the commencement of the anasarcous swellings, she had long suffered night sweats, which totally disappeared as the swellings occurred. She was frequently sick in the morning, and often threw up fluid tinged with bile.

She nursed for a year the child of her first lying in, during which time she did not menstruate. Subsequently to that period she had five times miscarried; and for the last four months her menses had been irregular as to intervals, and defective in quantity and color. Bowels usually lax, and more especially so for the last three weeks. It was directed that six ounces of blood should be taken from her arm, and that she should take twice a day a pill consisting of dried squill, and quicksilver triturated with manna, of each one grain.

The bleeding almost immediately relieved the dyspnea and stitches across the sternum. But the edematous swellings were increased, and the urine did not exceed half a pint in twenty-four hours. She had been purged seven or eight times each day. Her pulse was 114, full and hard, and never more than six strokes without intermission. This was the state of symptoms on the sixteenth of August. The bleeding was ordered to be repeated, and the pills to be continued.

I did not again see her till the twenty-fifth, when she had taken eight pills, which did not affect the mouth, but had produced seven or eight watery stools daily. The urine, however, did not amount to three ounces in the twenty-four hours, and was very high-colored and extremely turbid on standing, with a copious sediment. Her drink was about a quart in the day. Each systole of the heart shook *the whole trunk of the* body. The edema had extended itself nearly to the navel.

The pills were repeated and she was ordered to drink freely of a solution of supertartrate of potash.

From this time no farther application was made to me respecting this patient, who, probably, soon paid her debt to Nature.

The other cases, seven in number, were much less fully described. All had goiter and palpitation; but exophthalmos is not mentioned. Several symptoms, such as edema and vascular excitement, are mentioned in other cases. but the descriptions are not very minute.

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[3] In a review of the work just cited. in the Med.-Chir. Jour. and Rev., London, 1816. the reviewer speaks of three such cases he had seen.

Parry was an observer rather than a generalizer. He thought, he says, of some connection between the disease of the heart and the goiter. His work was not utilized until the time of Stokes (1851). Even later his name was misprinted "Percy" in two important works.[4]

Adelmann, who wrote in 1828, described some cases that may have been examples of exophthalmic goiter. He mentions palpitation, tachycardia, dyspnea, large eyes and pulsations of the cervical vessels, and may be admitted to have been one of the earliest to describe "goiter-heart," but he had no influence on the study of the disease.

The next epoch is that of Graves. Robert James Graves was born in 1796. Graves, Stokes, Adams, Corrigan and others made Dublin famous as a medical center in the second quarter of the nineteenth century. He is so well known as a writer that it is unnecessary to describe him in detail. It is known that he was one of the first to recognize the budding German medical spirit before it was appreciated in its own country, and that he applied his knowledge with characteristic brilliancy. Returning to Dublin in 1821, he worked in Meath Hospital and in the Park Street School. He had his students take charge of, observe and report on the patients, and both in teaching and in clinical medicine and therapeutics made important advances.

Graves' observations on exophthalmic goiter were first published May 23, 1835, in the *London Medical and Surgical Journal*, a periodical that had a strange career. It became split, forming two journals with the same name that existed side by side for years.

Graves' article was published in the same words, except for the omission of a few lines on the cause of the heart sounds, in his "System of Clinical Medicine" (Dublin, 1843) and also in the edition published by the New Sydenham Society in 1884-85, and in Gerhard's American edition, which went through several printings in the fifties. It is so easily accessible that I do not think it necessary to cite. Graves mentioned having seen three cases of violent and long-continued palpitation in females, with enlargement of the thyroid. The latter varied with the violence of the palpitation, and this, he thought, indicated that the thyroid was analogous to erectile tissue. He thought that the thyroid did not become as large as in ordinary goiter. In one case which he mentions specifically there was a frequent pulse, always over 120, and often much higher. The patient, a woman of 20, was weak, emaciated, and "her eyes assumed a singular appearance, for the eyeballs were apparently enlarged, so that when she slept or tried to shut her eyes the lids were incapable of closing. When the eyes were open the white sclerotics would be seen, to a breadth of several lines, all around the cornea." The thyroid was enlarged and the carotids beat much more forcibly than the radials, and "with a loud rustling sound."

Graves' report had no immediate effect in stimulating others, and owes most of its fame to the subsequent works of Stokes and still more of Trousseau, whose admiration for the Irish clinician is vividly expressed in his lectures.

With nothing of value in the meantime, we come next to the article by Basedow.[1] For the first time in the history of the disease we have a clear description of cases, a study of the literature, and an effort to explain the nature of the disease and give it a place in pathology.

Karl A. von Basedow was born March 28, 1799. He was district physician in the quaint little town of Merseburg, one of the oldest in Germany, and died April 11, 1851, from exanthematic typhus acquired at the autopsy on a victim of that disease.

His work on exophthalmic goiter is his most important contribution to medical literature, and is so good that we must regret he could not have done more.

Basedow began by citing all the pertinent literature he could find—St. Yves (1722), Louis (1774), Bonetus, Demours and Pauli (1837). Demours' case, published in 1821, is suggestive. It deals with a woman whose left eye was prominent, who had a predisposition to engorgement of the thyroid, and whose mother had a goiter. Pauli's patient, a woman of 30, multipara, had palpitation, weakness, edema of the legs, severe emaciation, projecting and staring eyes, without visual anomalies. Pauli, like many later writers, took the prominence of the eyes to be a sign of "dropsy of the eyeball," but Basedow thought it more like the condition in his own cases.

Basedow reported four cases—three women and a man. All had exophthalmos and goiter; three had frequent pulse; two palpitation. Other symptoms were: emaciation, dyspnea, edema; nervousness, going on to mild insanity; diarrhea; night sweating.

In his critical discussion, he excluded hydrophthalmos and swelling of the lacrimal glands, in the former respect showing greater accuracy of observation and better knowledge of physiology than many after him. He explained the protrusion as due to hypertrophy of the orbital tissues—"strumous" in the sense of goitrous. He ascribed it to the altered circulation and "dyscrasia," the latter a "masked scrofula." The solid edema of the abdominal wall he thought also an evidence of glandular hypertrophy. Among other reasons for thinking there was a "strumous hypertrophy of the connective tissue," he mentioned a case he saw in Weinhold's clinic in Leipzig in 1821, in which such tissue was dissected away from the eyelids. He rejected the possibility of an arterial or venous dilatation in the orbits.

Iodin, given in the form of Adelheid spring water (which also contains bromin), took down the swelling. In two cases pregnancy occurred and was followed by improvement. One patient improved and had no relapse for sixteen years, being pregnant about every eighteen months.

In a later report (1848) the autopsy on the body of the male patient is mentioned—the specimens being in the Museum of the University of Halle.

If we are tempted to criticize Basedow for his pathology, we must remember he wrote during the sway of the humoral pathology, before Virchow had begun his revolutionary career, and before there was any accurate work on the thyroid. Parry, like some even later than Basedow, believed the thyroid was a diverticulum, to prevent danger of congestion of the brain.

Basedow was a victim of the sort of editorial neglect I have mentioned before. Eight years after he published his observations, Henoch published an article in the same journal, dealing with a smaller number of his own cases and an incomplete review of the literature. Henoch ostentatiously ignored Basedow's work and even said: "Nowhere do German physicians mention this striking symptom-complex." This tendency, so unusual now, existed elsewhere in the middle of the last century. In the discussion in the Paris Academy of Medicine, to be mentioned later, Piorry said, and with much truth, that in "old Gaul" there was a "parade of foreign names more difficult to pronounce than those of pathology."

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[4] Virchow: Die krankhaften Geschwülste; Beigel, in Reynold's System.

As a striking contrast to the work of Basedow, a few weeks after his article, appeared one in the same journal by A. Th. Brueck, court physician and physician at Bad Driburg, and a stickler for style in medical writing. He reported five cases. Brueck seems to have been a specialist in eyes, in his way, for he gives such details in his histories as "dark blue eyes," "a strikingly beautiful and unusually well-developed girl with fiery black eyes that wounded many hearts," who remained unmarried and cultivated a passionate friendship for another girl, both becoming hysterical. Another patient was a "brilliant and beautiful woman, with soulful blue eyes," married to an unappreciative spouse. All of these poor creatures became hysterical, according to Brueck, and had dropsy of the eyeballs, though without visual anomalies. One was cured by animal magnetism. Brueck denied the glandular hypertrophy of Basedow, and questioned the existence of heart disease in the cases.

From this time the literature of exophthalmic goiter began to increase. There were three or four doubtful reports in the eighteenth century; 10, many of which were very doubtful, in the nineteenth up to 1835. From 1840 to 1845 there were 6, in the next 5 years 17, making 23 for the decade. The next decades show 61, 159, 248 and 450 respectively.

Kocher, in 1902, collected 1,423 titles. Huntington has pointed out that of these 109 are by 74 American authors. More than 90 per cent. are by neurologists or practicing physicians.

One of the best of the early case reports is by Sir Henry Marsh, and, though it is worth reading in full, I shall only refer to it here.[5]

Marsh described very accurately the clinical phenomena, as well as the anatomic changes in the heart and vessels, but did not go into details regarding the thyroid. He emphasized especially the vascular dilatation. Hirschberg seems to have fallen into error regarding the paper. He says: "Marsh reported some rare symptoms (gangrene of the extremities)," but it seems that the gangrene was the result of a complicating erysipelas—whether on an extremity or not is not stated.

Other reports in the forties show some details of interest, but I will limit myself to brief mention of that of W. White Cooper (1849), because in it he mentions the explanation of the retraction of the upper lid as given by Mr. Dalrymple. Before that time the peculiar expression of the eyes was often noted, but the condition of the lids was not closely described. Dalrymple explained the exophthalmos as due to two causes: absence of the tonicity which retains the eyes in the natural position, and venous congestion of the tissues which form a cushion behind the globe. In one case the eyes were greatly protruded "by a constant and powerful spasm of the levator palpebræ superioris, which drew the lid so far up and back that much of the scleræ was visible. This spasm of the levator of the lid is not uncommon in nervous and hysterical females, and is frequently associated with other irregular muscular actions, as in chorea."

While it is proper to give Dalrymple credit for the accuracy of his observation and conclusion, there is no advantage in changing the well-known name "Stellwag's sign" in order to indicate the priority of the discovery, as Posey and Spiller urge.

An important epoch in the development of the study of exophthalmic goiter was made by Stokes[6] in 1854. He gave four important features:

1. Increased force and rapidity of the heart's action, without fever, and of long continuance.

2. Excited action of the carotid and thyroid arteries.

3. Enlargement of the thyroid gland, varying with the force of the heart.

4. Enlargement of the eyeballs, without any disease of the orbits or brain.

It is important to see that Stokes looked on the thyroid enlargement as secondary to the heart affection. For him the point of departure was the heart, which caused the other changes. Stokes distinguished three kinds of pulsation in the neck: arterial, a diastolic throb in the thyroid, and a pulsating and palpable thrill in the gland and veins, similar to the thrill of an aneurismal varix. He mentions a case in which the condition was mistaken for aneurism, and a day set for tying the carotid artery. Stokes remarks: "Happily the true nature of the affection was discovered in time, and the patient was cured by the use of sedatives and iodin."

He showed the differences between this goiter and ordinary bronchocele or endemic goiter. He said that Graves was wrong in stating that the goiter was never large enough to produce deformity of the neck. Still, Stokes hesitated to describe the condition as a distinct disease, and gave reasons why the two could be included together; that is, preponderance in females, occurrence of hysterical attacks in cases of ordinary goiter, enlargement with uterine derangements, disappearance of murmur under iodin.

He fell into the strange error of attributing the exophthalmos to (probable) "augmentation of the vitreous and aqueous humors." He observed the retracted upper lid without laying stress on it, and noted the absence of visual disturbance, as well as of ophthalmia, notwithstanding the long exposure of the eyeball. He looked on the disease as a special form of cardiac neurosis, perhaps also a neurosis of the cervical vessels.

Stokes cited the observations of Parry and, in a footnote, of Flajani, as well as one quoted in the *Medico-Chirurgical Review*, vol. i, from the *New England Journal*, October, 1820, that does not seem to belong to the same class. His citations from Parry are critical and fairly just. He also quotes Graves, one of whose cases had been referred him by Stokes. His own reports of cases are very good, but, as his works are easily accessible, I shall not quote from them at length. It is worth mentioning that he accurately described the murmurs heard over the thyroid, afterward emphasized by P. Guttmann, but rediscovered from time to time by others.

Stokes suggested the now common classification of primary and secondary cases:

1. The pulsating and thrilling thyroid tumor succeeding to an increased action of the heart.

2. An indolent and non-pulsating tumor existing for a length of time, without any remarkable alteration in

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[5] Dublin Jour. Med Sc., 1841, 2, xx, 471.

[6] Diseases of the Heart and Aorta (Increased Action of the Heart and of the Arteries of the Neck followed by Enlargement of the Thyroid Gland and Eyeballs).

the action of the heart, but, consequent on the attacks of palpitation, taking on the character of an aneurismal varix.

Stokes made a plea for postmortem examinations, though he admitted that they would show the result rather than the cause of the disease. The possibility of making examination in his subjects, by way of surgical operations, was, of course, beyond the ken of that period. He contributed many details of interest, especially on the dilatation and tortuosity of the thyroid arteries. In one case, only the inferior thyroid was dilated, equalling the brachial in dimensions. He predicted that "light would be thrown on the functions of the thyroid gland by the study of the disease," but he appears to have favored Parry's idea of the diverticulum function of the thyroid. He also shared Graves' view, that the cause of globus hystericus was swelling of the gland.

Without taking up in detail the work immediately succeeding Stokes, I shall mention merely the names of Charcot and von Graefe, both of whose contributions began in the fifties.

An event of great importance at the time was a discussion before the Paris Academy of Medicine in 1860, following a report by Trousseau and others on a paper by Hiffelsheim. The articles of Fischer and Aran, in the meantime, had done much to stimulate interest in the subject, and were also referred to in the discussion, which was continued for several weeks. Aran had died before the discussion took place. With characteristic fulness of clinical and literary knowledge and keen critical insight he had given emphasis to many of the symptoms often noted before, but not given due weight in the study of the disease in general or in actual diagnosis.

In this report Trousseau introduced the term "forme fruste," or "obliterated form." "Fruste" is applied by coiners to defective coins or medals. Trousseau compared a case of the disease commonly characterized by exophthalmic goiter, but without goiter or exophthalmos, to a defaced coin of which some of the letters, or the head of an emperor, enable us to recognize the coin, or to the antediluvian lizard which Cuvier reconstructed from a single phalanx. Trousseau distinguished between "rudimentary" cases of disease, in which the signs are not developed, and "formes frustes," in which one or more chief signs are effaced. At the present time the distinction does not seem to be clearly observed, and "fruste" is applied to cases not only rudimentary, but even dubious. The enlargement and complication of the symptom picture at present make it necessary to have a different basis from that of the days of the "symptom triad," and there is no good reason for perpetuating Trousseau's term. We can with advantage speak of cases as possessing few or many symptoms, or as rudimentary, masked or incomplete, knowing, when we do, that the real picture remains to be described. Piorry tried in vain to lessen the veneration given in his time to the symptom-triad, showing there might be anything from an n-ad to an x-ad. He made the point with Gallic humor, that if he saw many "frustes" cases he and his patients would be "frustes."

In the discussion much was said of the nomenclature. It was then that Trousseau proposed naming the disease after Graves. He had himself, before, used the term "goitre exophthalmique." Charcot had used the term "maladie de Basedow."

Few diseases better illustrate the unsatisfactory condition of medical terminology than does the one we are now considering. Every writer on the subject feels obliged to repeat the statements regarding priority, and very often without actual knowledge of the facts and without an appreciation of the principles that should guide one in such matters. The difficulty depends on the fact that in medicine we have not yet felt the necessity of agreeing on a rule, as has been done in zoology and botany. Some two dozen names have been proposed for exophthalmic goiter. The latter is the term preferred in the international classification of Bertillon, which has been followed by the U. S. Census Office. Most of the text-books follow the idea, expressly or tacitly, that the disease should be called after the man who first described it. In this case we have seen that neither Basedow nor Graves can claim that honor, for Parry, ten years earlier, gave a better description, based on more cases, and with as much generalization as Graves. But if we follow this plan, we can by no means object if an Italian, who thinks he sees the picture in Flajani's work, names the disease after the latter. Then we may find some French or other writer still earlier, not to mention some Chinese, Hindustanee or Egyptian medicine-man whose claims may be just as good.

It would be much better to follow such a plan as that of the international system of zoologic terminology. According to this, the valid name of a genus or species can be only that under which it was first designated, provided that the name was published and accompanied by an indication or a definition or a description, and that the principle of binary nomenclature has been followed, including the possibility of putting the name into a Latin form, for convenience in international use. According to such a rule, which has already done much for zoologic terminology, names are given for use, and not in order to honor an observer or writer. Neither priority of description nor accuracy of observation need be considered.

The following table gives a list of names proposed:

Buphthalmus hystericus—Brueck	1835
Exophthalmic bronchocele—Laycock	1838
Die Glotzaugen—Basedow	1848
Glotzaugencachexie—Basedow	1848
Cachexie exophthalmique—Charcot	1856
Exophthalmus anemicus—Prael	1857
Cachexia exophthalmica—Withuisen	1858
Cardiogmus strumosus s. Morbus Basedowii—Hirsch	1858
Maladie de Basedow—Charcot	1859
Goitre exophthalmique—Trousseau	1860
Maladie de Graves—Trousseau	1860
Morbus Gravesii—Mannheim	1864
Exophthalmic goiter—Hamill	1861
Nevrose thyro exophthalmique—Corlieu	1863
Struma exophthalmica—Begbie	1868
Tachycardia strumosa exophthalmica—Lebert	1872
Morbo del Flajani—Pensutti	1887
Morbo di Flajani—Bacelli and de Renzi	1887
Cachexie thyroidienne—Gauthier	1888
Hystérie thyroidienne—Pader	1899
Parry's disease—Osler	1898

The first name actually proposed, "Buphthalmus hystericus (?)" (Brueck, 1835), is not available because it is incorrect in both terms. "Exophthalmic bronchocele" (Laycock, 1838) is not bad, except for the fact that bronchocele is an unsatisfactory term for goiter. "Glotzaugen" and "Glotzaugencachexie" (Basedow, 1848 are local. "Cachexie exophthalmique" (Charcot, 1856) and "exophthalmus anemicus" (Prael, 1857) are incorrect (or at least antiquated) in pathology. "Cardiogmus strumosus" (Hirsch, 1858) has the same objection. "Morbus Basedowii" (Hirsch, 1858) is then the first name that is free from serious objection, except on the ground that it is an eponym; and, although many object to the system, it can not be denied that it has the allowed perfect motility of the organ. The abdomen was closed, the rectocele reduced and repaired, and the prolapsed anal mucous membrane resected.

Postoperative history.—The patient reacted well and without nausea, and with the exception of a small rectovaginal fistula which developed between the rectocele wound and the site of the resected anal prolapse, made a perfect recovery. The fistula healed up after readjustment of the anal flap, without any further trouble. The patient was kept on her back for ten days, on a restricted assimilable fluid diet, and her bowels not allowed to move during that time. On the eleventh day she was given an oil enema, preceded by a small dose of compound licorice powder, given the night before, and she had an easy movement. She was allowed to turn on either side, supported by pillows, and at the end of the fourth week was allowed to walk and partake of full diet. She left for home at the end of six weeks, having good daily evacuations of the bowels without cathartics or enema.

Subsquent History.—Five months after the operation she called at my office, while on a visit to the city, and I had an opportunity of examining her. Everything was in perfect shape; she had daily stools without any assistance (after thirty years of constipation), and stated that her health in every way was perfect.

Case 2.—*Operation.*—The patient entered Harper Hospital, Feb. 16, 1907. Laparotomy revealed a similar condition to that in Case 1, except that in this case two adhesive bands about three inches long extended from the sigmoid to the old abdominal scar, holding the sigmoid in a position of acute angulation. The large part of the rest of the sigmoid filled the space formerly occupied by the uterus. Adhesions were broken up, the sigmoid drawn up out of the pelvis, mesosigmoidopexy performed by the method described in Case 1. A cicatricial contraction of the anus—the result of the Whitehead operation done for prolapse the preceding year—was excised, and the anal orifice restored to its normal size by a plastic operation.

Postoperative History.—The patient made an uninterrupted recovery, being kept in bed for three weeks. She was put on an absorbable liquid diet until after her first movement, on the eighth day; then she was gradually allowed full diet. The bowels were emptied every other day by oil enemata, and she had her first natural movement unassisted on the twenty-second day after the operation. The patient was last seen Feb. 8, 1908, when examination showed no evidences of prolapse after severe straining; the bowels were moving regularly.

This last case is of particular interest because the patient had been operated on twice before for the same condition without success, both amputation of the prolapsed bowel below and suspension to the abdominal wall having failed of their purpose. The technic referred to in this paper brings the prolapsed portion up and holds it there by its natural support, the mesosigmoid, which, being stitched to itself, becomes twice as thick and twice as strong.

By not causing any adhesion of the bowel itself to any fixed surface the natural mobility of the bowel is not interfered with in any way.

CONCLUSIONS.

From these two cases I draw the following conclusions:

1. In patients requiring hysterectomy who give a history of chronic constipation, the possibility of postoperative prolapse of the rectum and sigmoid should be borne in mind.
2. In patients with a history of chronic constipation who require hysterectomy it must be remembered that the removal of the uterus deprives the rectum of an important anterior support and the broad ligaments should be brought together whenever possible.
3. In these cases, perineorrhaphy and posterior colporrhaphy should be performed when laceration or rectocele exists.
4. When any tendency to prolapse of the rectum or sigmoid is observed mesosigmoidopexy should be done as a prophylactic measure.
5. Mesosigmoidopexy should be the operation of choice in every case of complete prolapse of the rectum and sigmoid, whether following hysterectomy or from other causes, as it holds the sigmoid in place by its natural support, its own mesentery; which being double its original thickness becomes twice as strong a support. By not causing a fixation of the bowel to the abdominal or pelvic wall, its natural mobility is not interfered with, and the normal peristaltic movements are not interfered with.

604 Washington Arcade.

ABSTRACT OF DISCUSSION.

Dr. Walter B. Dorsett, St. Louis: At the meeting of the American Association and Gynecologists and Obstetricians at Cincinnati I read a paper on the utilization of the broad and round ligaments following hysterectomy. In this paper I directed attention to the fact that cicatrices as a result of large denuded surfaces brought the rectum down into such a position that constipation frequently followed and also that some cases of enuresis due to prolapse of the bladder were caused by the fact that no attention had been paid to the restoration of the broad and round ligaments as supports of the uterus. While it may be a question whether round and broad ligaments are natural supports to the uterus, as a matter of fact when they are severed and brought down into the stump they hold up the rectum and the bladder.

Dr. L. J. Hirschman, Detroit: In answer the sutures were introduced crosswise of the vessels, and I was careful to avoid including the vessels in the sutures.

THE SURGICAL IMPORTANCE OF CERVICAL RIBS TO THE GENERAL PRACTITIONER.*

JOHN B. ROBERTS, M.D.
Professor of Surgery in the Philadelphia Polyclinic.
PHILADELPHIA.

I should scarcely venture to present this topic here, were it not that the general medical profession has not yet become familiar with it. Surgeons and neurologists have in recent years awakened to the great value of studies in embryology, comparative anatomy and pathology. The results of such studies are, however, more or less unknown to the bulk of practitioners, because they are published chiefly in journals devoted to the specialties of medical science. The surgical importance of vestigial structures, like the omphalomesenteric duct, the thyroglossal duct and the branchial clefts, and the relations of bony and other structural anomalies have a place, therefore, in the discussions of this Section.

A few years ago a distinguished surgeon remarked in a formal address that accurate anatomic knowledge was now hardly an essential in the training of a surgeon. Such an opinion is invalidated by a brief reference to the development of the surgery of cervical ribs. Most of us who spent the early days of our training in dissecting room study and teaching have been familiar with skeletal anomalies found in the vertebral column and ribs. Lumbar ribs, cervical ribs and supernumerary vertebræ are recognized as occasional evidences of the relation of the human vertebrate to other animals possessed of a back bone. The anterior tubercle on the transverse process of the cervical vertebra of man has long been known to represent the cervical ribs of certain vertebrates. In my own case such topics interested me so much that my graduation thesis was entitled "The Mechanical Construction of the Spinal Column."

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Notwithstanding the recognized occasional occurrence of cervical ribs in man, Coote[1] reported in 1861 a successful operation for the removal of "an exostosis of the left transverse process of the seventh cervical vertebra, surrounded by blood vessels and nerves." In his article he refers to a case of supernumerary rib without symptoms reported by Willshire[2] the year before. He describes his own case as an exostosis, although he attributes the bony process to a development of the costal element or rib of the seventh cervical vertebra.

Another interesting illustration of our failure to appreciate the relations of facts is that given by H. Lewis Jones.[3] In 1893 he published[4] a short paper on "Symmetrical Atrophy Affecting the Hands in Young People," recording six instances of the disease, the cause of which he was unable to explain. In 1902 Buzzard[5] showed that these cases should be regarded as due to a lesion of the first dorsal nerve root. Notwithstanding the study given the affection by these neurologists, it was not until 1904 that it was suggested by Thorburn[6] that the palsy and atrophy of the intrinsic muscles of the hand in such patients was caused by pressure from a cervical rib. Jones then searched for and found a number of the patients previously described and proved the existence of the unsuspected cervical rib by *x*-ray examination. These historical allusions show how little appreciation surgeons and neurologists had until recently of the importance of the anomalous cervical rib as an etiologic factor in vascular and nervous lesions of the neck and upper extremity.[7]

AN ILLUSTRATIVE CASE.

History.—A few months ago a woman, aged 32, applied to me for surgical advice regarding a supposed aneurism at the base of the neck on the right side. She had observed a swelling there when a young girl, but had given no special attention to it, because it caused no inconvenience. About ten years ago she had called the attention of a medical man to the existence of this swelling, and an *x*-ray examination was made. No diagnosis was given her, however, and she apparently allowed the decision to remain undetermined. About four months prior to her consultation with me she became annoyed at the existence of the swelling and pulsation at the base of the neck and consulted a local physician. He suggested the possibility of aneurism or some disease of the blood vessels and considered a surgical opinion desirable.

Examination.—I found the subclavian artery higher than usual and very visible as a pulsating vessel under the integument. There was no change in radial pulse, and no numbness, coldness, anemia, or pain in the arm, hand or fingers. The right hand showed no atrophy or paresis. The patient suffered no pain in the neck. Palpation disclosed a cervical rib on both sides. The diagnosis was confirmed by an *x*-ray plate. (*Fig.* 1.) As the patient suffered no inconvenience other than that caused by anxiety regarding the nature of the pulsating swelling I advised that no surgical or medical treatment be adopted.

This case is on a line with those just mentioned; which show that cervical ribs deserve serious consideration as a possible cause of a number of vascular and nervous symptoms pertaining to the neck and upper extremity.

The correlation of exact biologic knowledge with the practice of medicine has been quite characteristic of the last fifteen years. Such investigations, combined with the use of the *x*-ray in diagnosis, have shown that cervical ribs are not uncommon in the human skeleton. It therefore behooves physicians, surgeons and specialists always to recall that pain, anesthesia, muscular spasm, defective circulation, or atrophy in arm or hand may be due to pressure, in the supraclavicular triangle of the neck, from increase in size or a change in relative position of an anomalous rib connected with the seventh or the sixth cervical vertebra. Supposed bony tumors in this part of the neck may be the rib itself or an outgrowth from it.

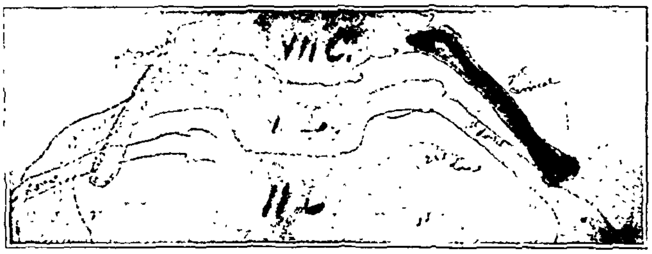

Fig. 1.—Skiagram of Dr. Roberts's cases of bilateral seventh cervical rib. The shadows of the cervical ribs were "inked in" before the reproduction was made. The outlines of the first and second dorsal have been marked with ink.

Other anomalies require like attention on the part of practitioners. One need only mention lumbar ribs, fused long bones, ossa triquetra, sesamoid bones, ossific plates in the pelvic ligaments, supernumerary digits, accessory thyroid and mammary glands, double arteries, multiple ureters, aberrant kidneys, and other anatomic variations to enforce the opinion that successful operative surgery needs the aid of morphology and descriptive anatomy.

VARIOUS FORMS OF CERVICAL RIB.

The usual cervical rib is attached to the transverse process and perhaps the body of the seventh cervical vertebra (Fig. 2) and may be found on both sides of the neck. When the condition is bilateral, one rib is frequently longer and better developed than the other.

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[1] Lancet, April 13, 1861, p. 360.

[2] Lancet, 1860, ii, p. 633.

[3] Cervical Ribs and their Relation to Atrophy of the Intrinsic Muscles of the Hand, Quart. Jour. Med., January, 1908, p. 187

[4] St. Bartholomew Hos. Rep., 1893, p. 308.

[5] Uniradicular Palsies of the Brachial Plexus, Brain, London, 1902, xxv, 209.

[6] Med. Chir. Tr., 1905, lxviii, 109.

[7] For those who may care to look further into the historical phase of the subject, the following additional references are given:
Williams: Ann. Surg., October, 1898, p. 512.
Lloyd: Ann. Surg., October, 1898, 513.
Blanchard: Revue Scient., 1885, i, 724.
Warren: Boston Med. and Surg. Jour., 1896, xi, 258.
Riesman: University of Penn. Med. Bull., March 1, 1904.
Grisson: Fortsch. a. d. Geb. d. Röntgenstrahlen, 1898 9, ii.
Eisendrath: Am. Med., Aug. 20, 1904.
Hessert: Ann. Surg., October, 1906, p. 630.
Murphy: Ann. Surg., March, 1905.
Kammerer: Ann. Surg., November, 1901, p. 642.
Lilienthal: Ann. Surg., May, 1905, p. 766.
Whitman: Ann. Surg., July, 1905, p. 123.
Ehrich: Beitr. z. klin. Chir., xiv, No. 1.
Phillips: Proc. Anat. Soc. Great Britain and Ireland, 1900.
v. Rutkowski: Ztschr. f. klin. Med., 1906, lx., 267.
Russell: Med. Rec., Feb. 16, 1907.
Editorial, The Journal A. M. A., March 9, 1907, 878.
Pancoast: Univ. Penn. Med. Bull., xiv, 394.
Howell: Lancet, June 22, 1907, p. 1703.
Beck: The Journal A. M. A., June 17, 1905, p. 1914.
Babcock: Am. Med., Oct. 7, 1905.
Broadbent: Brit. Med. Jour., May 5, 1906.
Murphy: Surg. Gynec. and Obstet., October, 1906, p. 514.
Keen: Am. Jour. Med. Sc., February, 1907.

Occasionally both the sixth and seventh vertebræ are furnished with these irregularly shaped costal appendages. A cervical rib generally approaches in some degree the outline of a dorsal rib. Its attachment to the spinal column, if it be so attached, is also like that of dorsal ribs. It is, however, quite often a very distorted representation of a rib. Its anterior end may be attached to the sternum (Fig. 2), may articulate with the upper surface of the first dorsal rib (Fig. 3), or may lie in the soft tissues without any other osseous connection than that which it has with the spine (Fig. 4).

Sometimes the middle of the rib is a fibrous cord uniting a posterior, or vertebral, bony segment with an anterior bony segment, which may be fastened to either the sternum or the first dorsal rib. In other cases there may be a posterior and an anterior bony segment with no intervening fibrous or bony tissue to represent the shaft or body of the rib. The irregularity of the curves of and the knobs on the anomalous rib may be extreme.

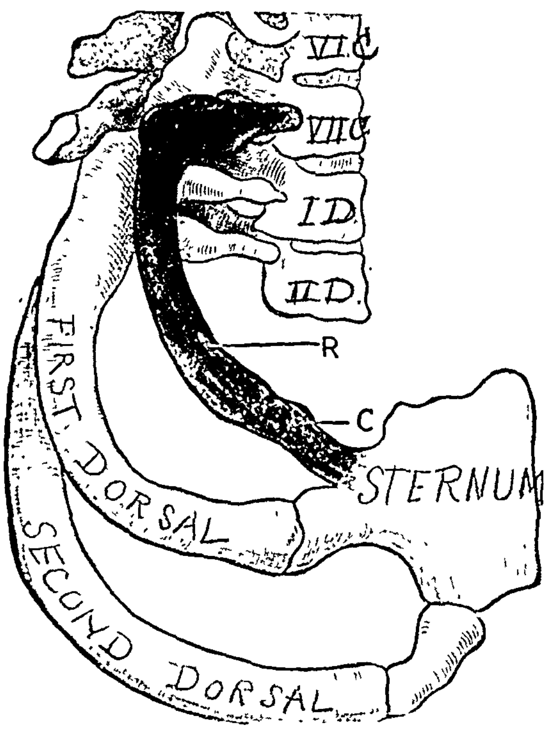

Fig. 2.—[From Hunauld.] Showing seventh cervical rib (R) and its cartilage (C).

The anomalous rib occupies a position in the neck considerably above the clavicle and broadens the base of the neck. The knobbiness, irregular thickening, or angularity of the rib may make a marked prominence, quite distinctly seen in the supraclavicular triangle, just behind the sternomastoid muscle. The resistance detected by palpation or the discovery of a hard mass or tumor buried in the muscles may lead to a correct diagnosis. If the anomalous rib extends to the sternum or is attached to the first dorsal rib near the sternum, the roots of the brachial plexus, the subclavian artery and the subclavian vein may be expected to pass over its superior surface. If the rib is two or three inches long, though incomplete in front, the roots of the plexus and the artery usually cross its upper surface in their course to the arm, but the vein does not, because it is situated too far forward (Fig. 5). The anterior scalene muscle is often fastened on the cervical rib (Fig. 3); the middle and posterior scalene muscles are sometimes attached to it. The artery usually lies between the rib and the anterior scalene muscle; that is, behind the muscle (Fig. 4). It may, however, lie in front of the anterior scalene muscle (Fig. 3, one side). In the latter event it is not so likely to suffer pressure from the anomalous rib. This artery may, however, take its course from the thorax to the arm through the space between the cervical rib and the first dorsal; it then has the usual relation to the first dorsal rib. It and the roots of the brachial plexus may pass through clefts in the anterior scalene muscle (Fig. 3, one side). Pancoast says that Turner speaks of a cadaver with bilateral cervical ribs, in which the right subclavian artery arose from the aorta and passed behind the trachea and esophagus to reach the right side of the neck. The eighth cervical and first dorsal nerves, which are the lowest roots or components of the brachial plexus, run, as a rule, across the rib, just behind the artery, and are quite liable to suffer compression.

The subclavius muscle may have an attachment to the cervical rib as well as to the first dorsal rib. The rhomboid ligament may be attached to the cervical rib, if the latter extends far enough forward. Sometimes the space between the cervical and the first dorsal ribs is spanned by fibers of the scalene muscles, representing an intercostal muscle. A perfect sheet of intercostal muscle may be found in this situation.

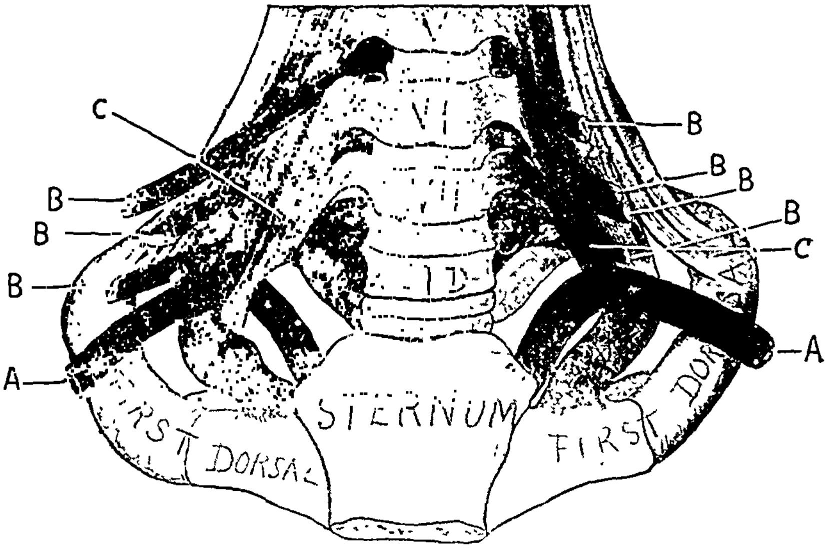

Fig. 3.—X, X, seventh cervical rib; A, subclavian artery; B, B, cervical nerves; C, anterior scalene muscle. On the left side the artery crosses the cervical rib in *front* of the anterior scalene muscle; on the right side it *perforates* the muscle. These relations are unusual. The nerves perforate the muscle on both sides. [Modified somewhat from Pilling.]

Cervical ribs are congenital anomalies and have been detected in young children. It is said that the peculiarity has been seen in a six months embryo. The so-called two-headed, or bicipital, ribs described by anatomists are composed of the shafts of two adjacent ribs, which have been congenitally fused. The first dorsal rib and an anomalous seventh cervical rib sometimes display this error in development. The apex of the pleural sac is not distant from a cervical rib and may be attached to it.

A critical study of the anatomic relations of the condition is scarcely germane to this paper, and I shall therefore now discuss the symptomatology.

SYMPTOMS OF CERVICAL RIB.

Many persons with cervical ribs suffer no discomfort from them; and their existence is unknown unless discovered by some chance clinical investigation. The symptoms are due to pressure on vessels and nerves.

The determining cause of the advent of symptoms is obscure. It has been supposed that there is a tendency toward the third decade of life for cervical ribs to grow in length, or to increase in size by the development of exostoses. Those ribs which extend directly outward from the spine appear to cause less trouble than those which project downward and forward. The short stumpy bones (Fig. 6) seem, according to Howell, to produce symptoms more readily than the longer ribs. This is perhaps due to the fact that the more perfect the shape of the rib, the more it and adjacent structures conform to physiologic standards and needs.

Symptoms have developed suddenly in children as well as in adults. A boy of thirteen years, for example, experienced the pressure symptoms first after a long swim. The advent of pain in numerous cases has been attributed to violent exercise or to a blow or injury. It is possible that the nerves have sustained injury by such accidents and therefore first gave the signal for investigating the skeletal details of the region above the clavicle.

The rigidity of increasing age has perhaps an influence, because the soft springy bones, ligaments and cartilages of children and young adults lessen the shock of blows. Cervical ribs are at times slightly movable. This mobility may act as a safeguard until it is lessened in middle age by increasing ossification of the fibrocartilaginous portions of the cervical anomaly. Absorption of subcutaneous and intermuscular fat may lessen the protection offered to the nerves and blood vessels; and thereby conduce to circulatory changes in the upper extremity as persons with congenital ribs in the neck emaciate from ill health or senility.

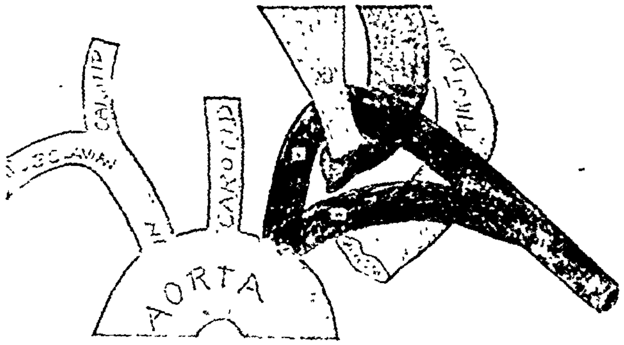

Fig. 4.—U, seventh cervical rib; V, abnormal position of subclavian artery; W indicates normal relation of subclavian artery to first dorsal rib when no cervical rib is present. M, anterior scalene muscle. [Modified somewhat from Keen.]

The symptoms are chiefly those due to pressure interfering with the blood current in the subclavian artery and sometimes in the vein, and those resulting from irritation or inflammation of the last cervical and first dorsal nerves. These nerves enter into the composition of the brachial plexus. The rib itself or a knob-like process or exostosis on it may give the physical signs of a tumor on inspection and palpation. The width of the base of the neck may be increased, especially if cervical ribs exist on both sides. Two cervical ribs (sixth and seventh) on each side—a very rare anomaly—would probably be very conspicuous in this respect. Keen states that the clavicle may be bent, or even dislocated, by the pressure exerted by the anomalous rib during the growth of the structures of the neck. Scoliosis may be induced, with the convex curve of the spinal column toward the side on which the anomalous rib exists.

The vascular symptoms pertain especially to the arterial circulation. Edema of the arm and hand from pressure on the subclavian vein or lymph vessels is rare. Some writers doubt its occurrence. The high position in the neck of the subclavian artery makes its pulsation visible and the artery easily palpable. The artery sometimes becomes dilated and has a murmur, thereby resembling a fusiform aneurism. It is not a true aneurism, however; and the dilatation is distal to the point of pressure, which is where the artery passes between the cervical rib and the anterior scalene muscle. Endarteritis, thrombosis and embolism may occur, leading to deficient circulation of the hand and arm. This circulatory disturbance is made evident by local anemia and coldness, and occasionally by gangrene of the finger tips.

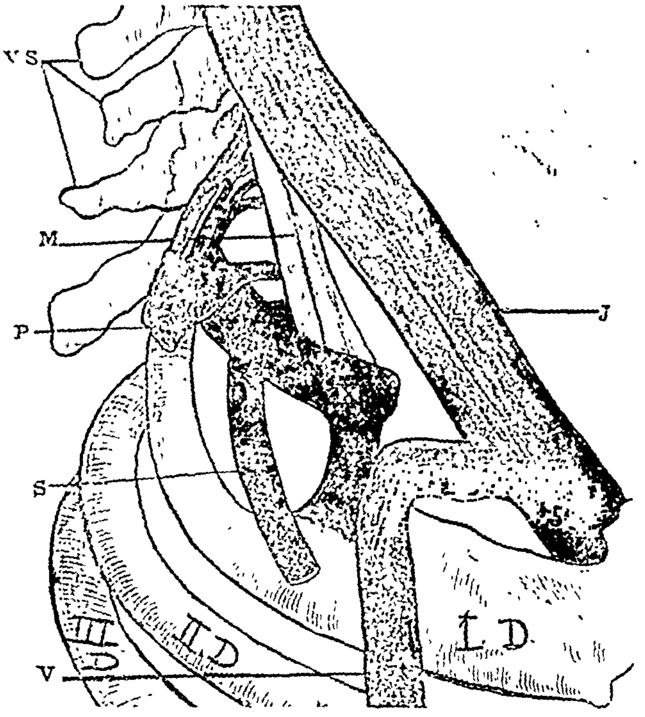

Fig. 5.—X, irregularly shaped cervical rib articulating with first dorsal rib; VS, vertebral spines; S, subclavian artery passing over cervical rib behind anterior scalene muscle; V, subclavian vein; J, jugular vein; P, cervical nerves; M, anterior scalene muscle. [Modified somewhat from Weissenstein.]

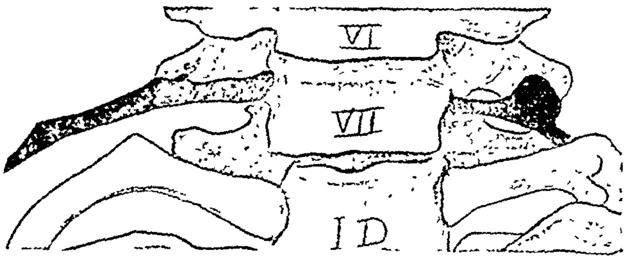

Fig. 6—Rudimentary cervical ribs are shown in black. They are very dissimilar in shape. [From Howell.]

Depressing the shoulder may increase the compression on the artery and obliterate a previously feeble radial pulse. Deep inspiration may obliterate the pulse in a similar way and cause disappearance of the arterial murmur. After holding the breath, the murmur may reappear with increased loudness on resumption of respiration. A gradual development of the collateral circulation may take place because of prolonged arterial compression, and a corresponding change in the vascular symptoms result.

The disturbances of innervation of the hand and arm are said to be more frequent than those connected with the blood supply. Sensory symptoms are more evident than motor, though spasm like writer's cramp, inability to extend the elbow, and muscular atrophy from degeneration of nerve supply do occur.

The numbness, formication, tingling, hyperesthesia and other evidences of nerve irritation or inflammation are referred especially to the ulnar side of the forearm. If a greater number of nerve fibers are subjected to pressure, or suffer from its secondary results, this area will be much increased and may involve the whole or nearly the whole of the upper extremity. The shoulder and chest may be the seat of pain. The neuralgic pain may be exceedingly severe; and may be intermittent or continuous. It is not certain that the sympathetic nerve is ever involved. Proptosis, dilated pupil, unilateral sweating and other supposed evidences of pressure on the ganglia of the sympathetic in the neck have been mentioned as possible symptoms due to cervical rib. The muscular symptoms are spasm and atrophy.

A study of the symptomatology reveals the reason for physicians making diagnoses of writer's cramp and , rheumatism, neuralgia, muscular atrophy, aneu- etc., of unknown origin. The possible existence of al ribs beginning to cause pressure symptoms ıld ever be present in the practitioner's mind. The ecollection of this possibility will lead to a correct understanding of many heretofore obscure cases. The *x*-ray makes the diagnosis easy.

TREATMENT.

reatment is excision of the anomalous cervical l cases of severity. The operation, if done well, actically free from danger, though it naturally ries in its surgical importance in each case. The entire rib should, as a rule, be removed. Subperiosteal resection is not wise, as a regenerated rib may exert pressure again. Injury to vessels, nerves and pleura is to be deprecated and may usually be avoided by the common expedients available to operators. Pneumothorax, local and general palsy of the extremity and troublesome bleeding have been caused in some operations. These mishaps are unusual.

The palliative treatment in mild cases consists in rest of the arm, suspension of the patient, local counterirritation, liniments and massage. The constant electrical current (8 to 10 milliamperes) may be employed, with the anode used as the active electrode. The combined faradic and galvanic current may be found useful.

ABSTRACT OF DISCUSSION.

Dr. J. Clark Stewart, Minneapolis: The advantage of such papers as this is that they familiarize the profession with a clinical entity, which, while it may be rare, is of the greatest importance, especially from a diagnostic standpoint. No one can make a diagnosis of a condition with which he is absolutely unfamiliar. A study of the subject shows that cervical ribs are very common, probably very much more so than even a study of the literature would show, because the condition has hitherto been so seldom recognized.

Cervical ribs which cause symptoms are rare, but it is imperative that if the signs of the condition which Dr. Roberts has so briefly gone over are to be recognized and treated everyone should recognize the possibility of this condition causing these symptoms. I think that the great bulk of these cases which are noted and described have been discovered on account of the deformity, the broadening of the lower part of the neck on one side, accompanied by an elevation of the scapula on that side. The *x*-ray, of course, demonstrates the character of these ribs. The lesson to be learned from the paper is the necessity for careful examination of every case of brachial neuralgia, whether accompanied by atrophy of the muscles or not. Every such case should be submitted to *x*-ray examination, and in a number of cases you will be rewarded by finding an extra cervical rib. Of course, its surgical removal is indicated.

RACHITIC EROSIONS OF THE PERMANENT TEETH ASSOCIATED WITH LAMELLAR CATARACT.*

I. A. ABT, M.D. and MORTIMER FRANK, M.D.
CHICAGO.

The occurrence of lamellar cataract is so frequently associated with erosions of the teeth and the history of some early nutritional disturbance, that an inquiry as to the relationship of these two conditions must be of some interest. The following case, which is the subject of this report, illustrates the association of these conditions:

History.—C. W., male, aged 12, was first seen Feb. 19, 1908, brought to us because he was mentally backward. The father said that the boy was willing and obedient but that he made poor progress at school and was the object of derision on the playground. He had been removed from one school to another, but found great difficulty in keeping up with his classes. Incidentally we learned that his vision was defective. The family history was negative. The conditions of his birth were normal. At the end of the second month maternal nursing was no longer possible and artificial food was substituted. From this time on his feeding was a very difficult problem, a great variety of foods were tried and he had more or less continuous disturbances of digestion. His progress was very slow. The anterior fontanelle closed at the fourteenth month, though the teeth did not erupt until the second year. It is important to note that he had frequent convulsive seizures during the first year of his life, perspired excessively, was fretful day and night, and cried when he was handled. He did not stand or walk until his second year.

Examination.—The patient was a large well-developed boy of 12 years. He was not of prepossessing appearance and his facial expression was that of a dull child. The mouth remained open owing to malocclusion of the teeth. His skull was large and massive, square-shaped, and presents the evidence of an old rickets. His chest was well formed and showed no deformity. His extremities were normal. The chest and abdomen presented nothing abnormal.

Eye Examination (Dr. Mortimer Frank).—R. E. V., 6/15; L. E. V., 6/15. Under atropin retinoscopy gave:

$$\text{R. E., } 6/0 + 5.00 \overset{\frown}{\smile} + 0.50 \times 105 = 6.9 +.$$
$$\text{L. E., } 6/0 + 4.75 \overset{\frown}{\smile} + 0.37 \times 60 = 6.9 +.$$

This correction was ordered for constant use. The fundus showed a marked absence of pigment; otherwise normal. The interesting feature was the transparent condition of both crystalline lenses, while at the equator placed at irregular intervals are seen the opaque short striæ or "riders" of lamellar cataract (Fig. 1).

The Teeth.—The changes in the permanent teeth showed typical malformation of the enamel, especially of the six-year-old molars. The incisors and all the anterior teeth also had defects of the enamel. The remaining permanent teeth, such as the twelve-years molars and bicuspids (which erupt after the eighth year), presented no traces of malformation, the bicuspids showed a slight defect at the tip. The right lower deciduous second molar was still in position and consequently had prevented the eruption of the second bicuspid, which ordinarily should have erupted three years before. The malocclusion of the teeth seemed to be acquired and was probably due to untreated adenoids. The condition was not hereditary.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

SUMMARY OF CLINICAL FINDINGS.

A boy 12 years of age, with a striking history and some physical evidence of a previous rickets, who has been backward at school, due for the most part to a marked visual defect, the ocular examination shows the presence of a bilateral lamellar cataract and erosions of the permanent teeth, which are thought to be rachitic in origin.

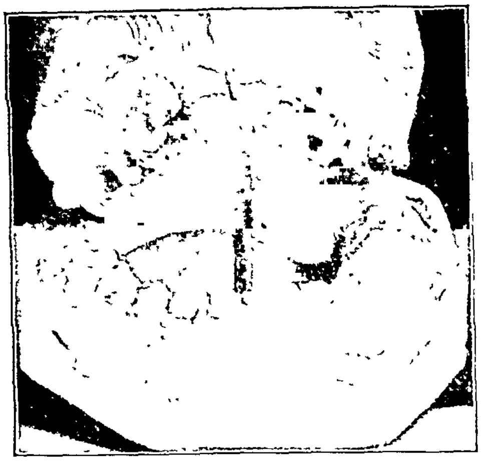

Fig. 1.

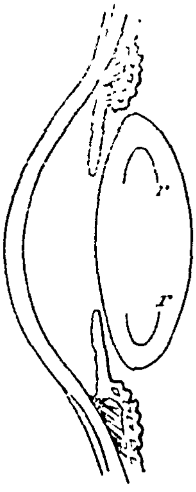

Fig. 2.

Fig. 1.—Plaster cast showing malocclusion.
Fig. 2.—Schematic cross section of lamellar cataract showing the riders (r) on the periphery

LAMELLAR CATARACT.

The most frequent form of cataract found in children is of the lamellar or zonular type. It has a peculiar and well-marked characteristic, in that the cataract is caused by a shell or layer of opacity lying between the clear nucleus and the cortex of the lens. Along the periphery of the opacity, which is usually well marked, small opaque dentations are frequently found embracing the inner opacity in front and behind which are called "riders," which signify a commencing opacity of a second layer (Fig. 2). These are present at first only at isolated spots along the equator of this first layer.

THEORIES AS TO THE CAUSE OF LAMELLAR CATARACT.

Various theories have been advanced to account for this condition. Davidson and Horner, of Zurich (1865), were the first to maintain that lamellar cataract was caused by rickets. This view has been accepted in some quarters and rejected in others, notably in England. The supposed etiologic relation of rickets to lamellar cataract is well summed up in Fuch's text-book on Diseases of the Eye:

> Lamellar cataract almost always affects both eyes, its time of origin falls within the first years of life. It is found above all in those children who have suffered from convulsions. Convulsive seizures at this time of life are nearly always due to rickets, and are, furthermore, associated with other rachitic changes—particularly craniotabes.

Arlt states it as his experience that lamellar cataract is found primarily among individuals who have suffered from convulsions in infancy and he thinks that on account of the severe commotion of the eyes during the convulsive seizure the elements of the lens become disturbed and the normal relationship of the fibers has been changed, thus producing the opacity. Peters, who reviews the subject of lamellar cataract in Volume 10 of *Lubarsch u. Ostertag*, calls attention to the relation of this condition to rickets and tetany, and also to the fact that tetany in adult life may produce changes which lead to the formation of cataract. The perversion of metabolism in tetany, he thinks, produces toxins which are capable of injuring ciliary epithelium, and may also change the composition of the aqueous humor. Peters further states that tetany not only produces cataract, but also trophic changes in the hair, the nails, the skin and the teeth. This discussion might be carried on at great length, but as it is well known that in children rickets and tetany are nearly always associated, and as it is maintained by most authorities that tetany is a manifestation of rickets, one may safely state that the underlying condition of the rachitic process is a nutritive disturbance.

There has been much discussion whether lamellar cataract is congenital or acquired. Most authorities, however, agree that the disturbance may occur *in utero* or during the first year of life. Becker has reported a case of lamellar cataract which was undoubtedly congenital and De Wecker one which developed in a child of nine years. If one would ascribe all lamellar cataracts as due to rickets this would necessarily presuppose the undoubted occurrence of fetal rickets. This assumption belongs in the category of debatable subjects, since fetal rickets is not universally accepted as a pathologic entity. Our experience leads us to agree with those who believe that rickets may occur in the fetus.

There seems to be no evidence of any relationship between zonular or lamellar cataract and congenital syphilis. The defective condition of the enamel of the teeth so frequently associated with the former is, as Hutchinson pointed out, quite different from the notched, screwdriver condition found in syphilis.

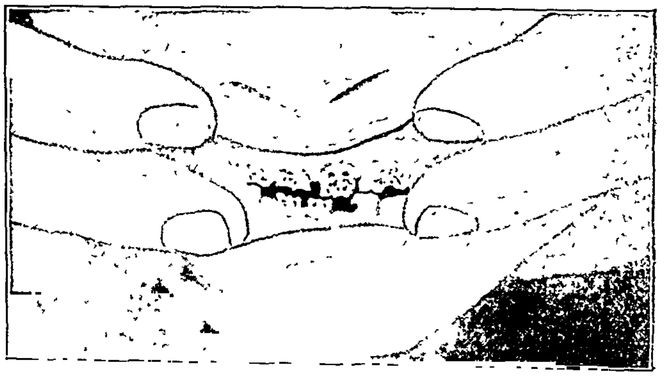

Fig. 3.—Incisors showing rows of punctate depressions.

Hutchinson does not agree with Horner in attributing lamellar cataract and the defect of the enamel to rickets. He considers these conditions more probably due to stomatitis produced by the administration of mercurial powder given for the relief of various infantile disorders. He asserts the suggestion of the Zurich investigators that the peculiarities of the teeth, the skull bones, and the general development as due to rickets to be wholly unproved and points out in this connection that the so-called rachitic teeth refer to the permanent dentition, when as a matter of fact the rickets has disappeared before the second dentition has begun.

This argument is without force, because it is evident from our knowledge of the development of teeth that it is quite possible that rickets may affect the permanent set. The germs of all the enamel organs of the permanent set are present at birth, and calcification has made a considerable progress during the first two years of life, which period is concomitant with the occurrence of the rachitic process. The enamel organs of the permanent teeth are subject to the same rachitic process as the remaining osseous system. When rickets is present it is the most active during the first two years of life. During the same period the permanent teeth are actively developing. From this one may readily understand how nutritive changes may occur in the teeth. These changes present themselves in the form of erosions, and an eroded tooth may remain a permanent evidence of rickets throughout life.

Erosion of the permanent teeth is a condition which is characterized by a hypoplasia in localized areas. It should be emphasized that this condition has nothing in common with dental caries. These erosions occur with great frequency and have great diagnostic importance. In the mildest form one sees rows of punctate depressions which surround the crown of the tooth and run parallel to the masticating surface, whereas the enamel remains for the most part intact (Fig. 3). In the severer cases one finds in place of the linear depression a more or less deep groove which involves, as a rule, only the enamel, though it may involve the dentine. These grooves may occur singly or in groups, and in this latter case they are usually parallel to one another.

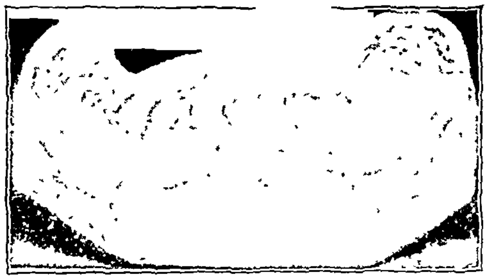

Fig. 4.—Showing superimposed tuberosity on molar tooth.

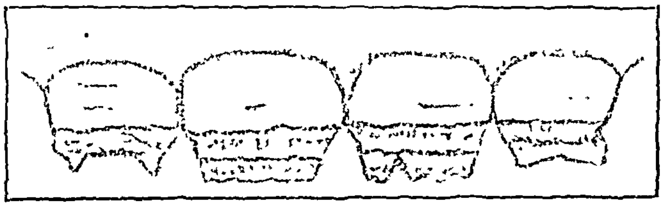

Fig. 5.—Cutting surface flattened and teeth shortened.

The single erosions of this kind usually involve the circumference of the crown, though the condition occurs in other parts, particularly on the incisors. Occasionally one finds cup-shaped depressions of various sizes with dark colored bases. In other cases facets which appear as though the cutting surface of the tooth had been filed off. It is only rarely that one sees the so-called honey-combed teeth. Another form is characterized by a yellowish or brownish discoloration of the crown and a loss of the normal smoothness or glossiness of the enamel. Very often only the distal part of the tooth is eroded, the proximal portion remaining normal. The appearance of the erosion differs, depending on the group of teeth involved. On the incisors one notices saw-like indentations or crescentic depressions of the cutting surface. The incisors may be normal in their proximal parts, though the body of the teeth may be encircled by a groove with a yellowish or grayish base. The canines are usually characterized by being blunt instead of pointed or they may be conical or present V-shaped depressions. In the molars the elevations or tuberosities are lost and the cutting surface is pointed. The cutting or grinding surface of the first molar has a superimposed tuberosity and appears as though a smaller tooth had grown on it (Fig. 4). Through constant use these molars in later life become short and flat and the same can be said of the incisors.

It is also true that in advanced years the erosions in the distal portion of the incisors become worn off, and as a result these teeth become shorter. They appear as though they had been cut or filed off, and in place of the sharp angular surface one notices a flat or even surface with the enamel lacking (Fig. 5). These erosions are usually symmetrical in that they involve homologous teeth and are usually affected in the same manner and with the same intensity. Erosions may involve all of the teeth, though the molars, the incisors, the canines and bicuspids are attacked in the order enumerated. One author reports cases in which the teeth have shown as many erosions as a child had convulsive attacks. This, however, lacks corroboration.

Summing up the entire matter, one seems justified in concluding that in those cases of lamellar cataract associated with erosions of the teeth and with other evidence of rachitic changes or a history of convulsion during infancy, that a more or less severe rickets has produced by reason of perversion in metabolism and probably the production of toxic products, not only the erosions of the teeth, but also the lamellar cataract.

ABSTRACT OF DISCUSSION.

Dr. R. B. Gilbert, Louisville, Ky.: Just what relation cataract would have to the rachitic diathesis I am unable to make out. Authors on this subject have yet to explain how cataracts occur from the deficiency of lime salts in the blood. However, Dr. Abt seems to demonstrate that cataracts do occur under such conditions. As to the erosions of the teeth, we can readily comprehend that the structures requiring lime salts, as the bones and the teeth, would naturally suffer from a deficiency of these salts. This would be especially true of the teeth as they require the hardest substance for the enamel. When there is a deficiency of the lime salts, the structure of the teeth and bones must suffer. The permanent teeth, of course, are growing and developing while the deciduous teeth are still in position, so that if the rachitic diathesis occurs anywhere from the first to the third year, the results may be seen in defects of the teeth. I take it that what seem to be erosions in many instances are due to the fact that there is not enough enamel formed to cover the dentine perfectly and it appears as an erosion. If we could study these cases most carefully before the loss of the first set of teeth, and treat the condition properly, we might save the erosion of the permanent teeth. The convulsions may possibly be due to the pressure in the subarachnoid space.

Dr. J. M. Dodson, Chicago: Two or three cases described raise in my mind the question whether there is any relation between the line on the teeth and the change in nutrition in infancy. I recall a child who was given artificial food; there was considerable difficulty in finding a properly adapted food during the first four or five months of life. The child presented distinctly rachitic symptoms. After this time food was well taken, the child throve, and the rachitic symptoms disappeared. To-day, at 11 years of age, this girl shows a distinct line in the teeth, the tooth being perfectly enameled below this ring, but with a yellowish tinge above it. The impression made on me by this case is that when the proper food was found and the improvement in nutrition occurred, there was a simultaneous improvement in the development of the teeth.

DR. H. M. MCCLANAHAN, Omaha: Rickets is more frequent now than in years past. We should more promptly recognize rickets in the early stage before these ulterior results follow.

DR. C. MARTIN WOOD, Decatur, Ill.: I wish to raise the question whether any other profound disturbance of nutrition might not produce a similar erosion. I recall a case in which a child at the age of 2 years had a severe attack of pneumonia. At the age of 15 years there was this distinct erosion on the second teeth. In this case rickets could be positively excluded. Another question is, whether there is a parallelism between this condition of the teeth and those conditions of the nails that we sometimes see in people with profound nervous disturbances or depression.

DR. CHARLES DOUGLAS, Detroit: This paper was very interesting to me as it brings out a feature that I have frequently noticed. In nursing infants when there was a marked change at a particular time in the nutrition and growth, this was followed afterward by erosions and indentations of the teeth. I have in mind a few cases in which a discoloration of the enamel was also present. I recall the case of a young woman who shows in her incisor teeth the effects of such a disturbance during the nursing period. I have often questioned mothers regarding the time of imperfect assimilation of food while nursing, to see if it agreed with these marks on the incisor teeth.

DR. I. A. ABT, Chicago: It occurred to me that this case might bring out some new thoughts as to the sequelæ of rickets. I must avoid any distinctly technical discussion on the ophthalmic or dental aspects of the case. A very careful search of the literature showed that rachitis or convulsive seizures bore in nearly every case a causal relation to the erosions and cataract. No other condition occurred with sufficient frequency to stand in a causal relation. Very many of these children have convulsions in early infancy. There may be a parallel between the erosions of the teeth and the condition of the nails referred to. One author states that erosions of the teeth may be associated with other trophic changes.

THE ADJUSTABLE CANVAS CHAIR AS AN AID TO THE MURPHY TREATMENT OF DIFFUSE SUPPURATIVE PERITONITIS.*

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COLUMBUS, OHIO.

To the average surgeon, the Murphy treatment of diffuse suppurative peritonitis needs no introduction. Its preeminence as a life saver in this class of cases has gained for it almost universal recognition. Its results, in the light of past experience, have been nothing short of marvelous, and there no longer can be a question of doubt as to its efficacy, but, like every other thing, the principles of which are not fully understood, it has been modified according to individual notion until in some instances it has been shorn of much of its value.

It was with the wish of correcting these false and dangerous innovations which have not only marred the work of individual operators, but have crept into literature, that I applied to Dr. Murphy for an outline of his treatment. In response, he sent me the subjoined extract from an as yet unpublished paper, with permission to use it as I saw best.

The cardinal features of the Murphy treatment for diffuse suppurative peritonitis are the Fowler position, pelvic drainage and continuous drop-by-drop instillation into the rectum of a saline solution.

The underlying principles, as I understand them, are:

1. Drainage of the germ impregnated fluids into the pelvis, where absorption is least active, and away from the diaphragm, where absorption is most active, thus tending to diminish systemic infection. This is accomplished through gravitation by means of the Fowler position.

2. Drainage of the pelvis to prevent stasis and accumulation of the peccant matters, which is in furtherance of the same object. The drainage is effected through rubber tubes usually introduced through a suprapubic incision to the bottom of the pelvis, though on occasion the drainage may be effected through the vault of the vagina.

3. Surcharging the lymphatics with a saline solution to prevent their taking up and conveying into the general circulation the poisonous products of the pathogenic germs and the germs themselves. This is effected by rectal instillation.

It is claimed that the saline infusion into the rectum is carried by antiperistalsis the full length of the large bowel, and in this way the area of absorbing surface is prodigiously increased. Now, inasmuch as the large bowel possesses both an absorbent and excretory function, I am of the opinion that the saline infusion serves a double purpose by creating both an endosmotic and an exosmotic current, whereby the vascular channels are filled, on the one hand, with the innocuous saline solution, and the excretory products, including the poisonous matters, are, on the other hand, swept into the bowel, to be carried away with the excretions. I have seen cases in which a diarrheal discharge of distinctly fecal character went hand in hand with evidence of absorption of the saline infusion and a gradual subsidence of septic manifestations.

But, to return to Dr. Murphy's extract furnished me for the occasion, he says: "In the last five years' work in general septic peritonitis we have had 47 cases of perforative, diffuse, general peritonitis operated in the active stage, with but two deaths, and neither of these from the peritonitis. The treatment after the operation in these cases consisted in placing and retaining the patient in the semi-sitting (Fowler) position (35 to 45 degrees) for three or four days, administering large quantities of saline solution by rectum, from six to fifteen quarts in twenty-four hours; the saline must be allowed to seep in, the tube remaining constantly in position. No water should be given by the mouth, as the stomach never absorbs it direct, and under these conditions it does not readily transmit it to the intestine for absorption. Mild catharsis should be induced with small doses of calomel, beginning eight hours after operation. . . . During the transportation of cases of general suppurative peritonitis to the hospital and during the operation the patients should be kept in a semi-sitting position. . . . Use ordinary vaginal douche tips with three openings, so that the water can flow into one and the gas come out of the other. A single opening tip will not permit the gas to bubble back into the can, and the passing of gas is important. The can should be elevated from four to six inches above the anal level. The tube can be strapped permanently to the body (the thigh) of the patient with adhesive plaster, and the nurse should be carefully instructed to watch closely and not allow more than one and a half pints of the saline solution to flow in from forty minutes to one hour. The speed of the flow must not be controlled by forceps on the tube, but by elevation (or depression) of the can. A hot water bag should be used to keep the solution warm. (The can is replenished every two hours.) There is no irritation of the rectum and the tube is not taken out for days, the time varying in different patients and depending on the virulence of the infection. Through the drain the tension of the pus is kept low. With the saline irrigation these patients have increased urination and increased perspiration when the blood pressure is restored."

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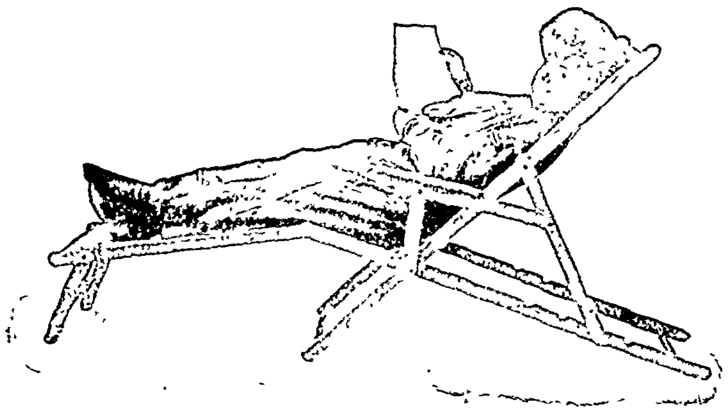
* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

This brings me to the consideration of the adjustable canvas chair as an aid in the Murphy treatment of diffused, suppurative peritonitis. The adjustable canvas chair is a chair fashioned after the style of the well known steamer deck chair. It consists of a canvas body rest, or hammock, supported by a wooden framework, and as its name implies is capable of being thrown into various positions ranging from the upright to, or near, the horizontal. It is provided with a leg rest which is also capable of being raised or lowered. Incidentally, it is light in construction and can be folded into small compass for easy conveyance. The chair is manufactured by the Kalamazoo Sled Co., but under what name I am unable to say.[1]

I have used a number of different devices for maintaining the proper position of the patient in the Murphy treatment, but have found them all more or less disappointing, especially with reference to cleanliness, convenience and facility of manipulation. Probably the most forceful way of presenting the subject is to recite in detail the causes and conditions which led me to adopt this contrivance.



Adjustable canvas chair for use in the Murphy treatment of diffuse suppurative peritonitis.

Patient.—A girl, aged 19, was brought to the St. Anthony's Hospital profoundly septic as the result of a self-induced abortion. A penholder had been repeatedly thrust into the uterus and, as I believe, through that organ into the peritoneal cavity.

Operation.—When brought to the operating room she was apparently moribund, and we feared she would not come off the table alive. A large pelvic abscess was evacuated through the posterior vaginal fornix and a rubber tube introduced flanked by gauze packing. Then turning my attention to the abdomen, which was much distended and of almost board-like hardness, I made a median incision above the pubis and liberated a surprising quantity of pus. Here also rubber tubes were inserted and carried well down into the pelvis. She was then placed in bed in the Fowler position and salt solution instilled into the rectum.

Postoperative History.—On the second day a persistent diarrhea set in, which, in spite of the most assiduous attentions on the part of the nurses, befouled the patient from neck to heels. She was literally wallowing in her own excrement, and was one of the most revolting cases I had ever had to deal with. The stench was almost unbearable, and the acrid excreta had produced a violent dermatitis on the posterior aspect of the body which greatly augmented the patient's sufferings. Various expedients were resorted to to remedy this distressing condition, including the use of the inflatable rubber ring, but all to little purpose.

Description of Chair and Result of Its Use.—I then bethought me of the adjustable canvas chair. I procured one and directed that an oblong opening be made in the seat, that it be bound around with tape and a large rubber inflatable ring be placed on it to receive the buttocks. The bedding and springs were removed from the iron bed, a couple of boards placed lengthwise on the slats and the chair placed on these. A footbath tub was placed under the chair to receive the voidings of the bowel and bladder. The patient, having been cleansed, was lifted into the chair, which was elevated to an angle of sixty degrees and so maintained for two days. After this it was lowered, notch by notch, to an angle of thirty-five degrees, keeping close watch of pulse and temperature and putting the patient up again when there were indications of a rise of either. Temporarily and for short intervals the angle of the chair was changed from time to time to take the strain off the muscles and these changes were grateful to the patient. From the moment the patient was placed in the chair relief came to all concerned. There was no more soiling of bedding or body and the patient manifested her sense of comfort by going into a refreshing sleep. Gradually but steadily she improved until on the eighth day of her occupancy of the chair and when well on the road to recovery she asked to be transferred to the bed, complaining of a pain in the back.

Should the patient complain of not having a place to rest her extended arms (something that has not yet occurred to me), it would be an easy matter to build up on either side of the chair by means of cushions or bedding a place for the extended arms to rest on. I will not say that this will be the most comfortable contrivance for all patients at all times, but for cleanliness and convenience, cheapness and comfort, it, in the main, excels any other I have seen. In my own service I have had the canvas removed from the seat and back of the chair and in its stead substituted a rubber cloth. This is attached with safety pins to the rungs above and below and can easily be removed, cleansed and reapplied. The canvas could be attached in like manner, but being absorbent would be more difficult to keep clean. On the other hand, it would be cooler and more comfortable in hot weather.

A NEW POSITION FOR THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE RECTUM AND SIGMOID FLEXURE.

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LOUISVILLE, KY.

For more than two years my partner, Dr. J. M. Mathews, and myself have employed the position herein described, almost daily, and I have demonstrated its superiority over other postures to a number of surgeons of extensive experience in the treatment of diseases of the rectum and sigmoid.

Having often employed the knee-chest posture and observed the effect in that position of the gravitation of the abdominal viscera toward the diaphragm, it occurred to me when I was treating a patient who had a very long sacrum and coccyx, with the curve of each much exaggerated, that I could get a better view if the patient were more completely inverted. I therefore had the patient assume a position that might be called an exaggerated knee-chest posture, and by so doing it was apparent that the mucosa could be observed farther up the bowel and the distention was more complete. I continued to approach more nearly a complete inversion of the patient until finally this position was reached. The result of my experiment was satisfactory beyond expectation, and from that time it has been of incalculable service in the diagnosis and treatment of many diseases of the lower bowel. I am convinced that it will be accepted as a positive and practical addition to the surgeon's resources in treating this important class of diseases.

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[1] I am informed that it is catalogued as No. 50x.

The position is very simple, and in no way painful or particularly objectionable to the patient when properly used. I have found a surgical chair or table, such as is in common use for surgical or gynecological examinations, well adapted for this purpose, though a special table is being constructed that can be more easily manipulated and is more comfortable to the patient. As the position is now obtained, the patient is placed on the table with the foot-rest dropped, and is allowed to hang over the end of the table on his thighs, with the shoulders resting on the edges of two plain chairs, as shown in Fig. 1. Or a better position is obtained by allowing the patient to rest his head on a pillow, folding his arms and supporting his weight on each elbow, as shown in Fig. 2. I have often kept patients in this position for from ten to twenty minutes with comparatively no discomfort to them.

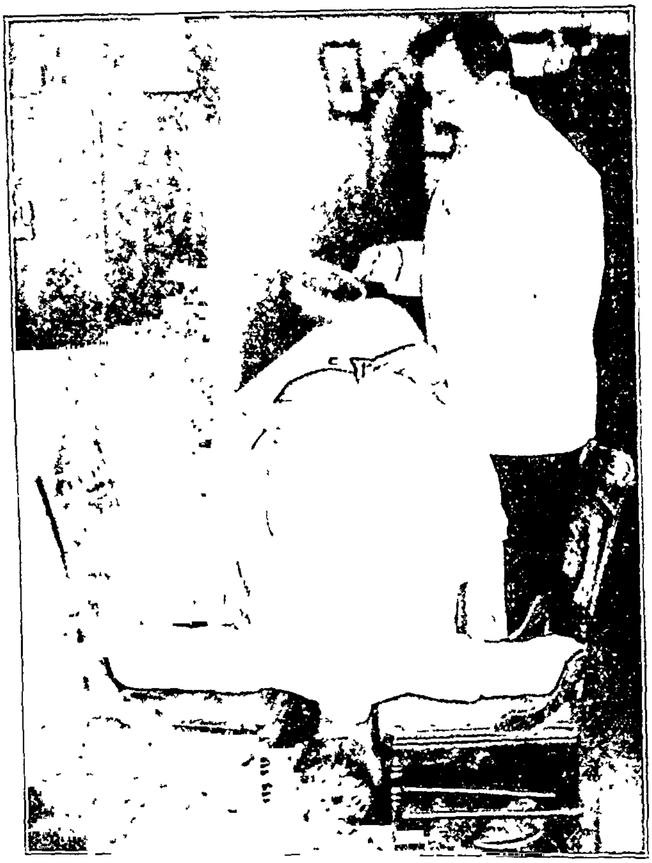
Fig. 1.—Position for the diagnosis and treatment of diseases of the rectum and sigmoid flexure, with shoulders supported on two chairs.

As soon as the patient assumes this position the abdominal viscera gravitate toward the diaphragm, and the maximum tension on the sigmoid and rectum is obtained. The bowel thus approaches the direction of a straight line. This accomplished, the proctoscope is readily passed by the folds and flexures of the intestine, there being absolutely no injury to the mucosa if the distal end of the instrument is kept in view and guided around these natural obstructions. If there are abnormalities existing in the bowel, and it is impossible to pass the instrument by them, they can be observed, and, therefore, no injury done to the patient, which can not always be assured when other positions are used. The chief advantage in this position is in the fact that the viscera descend most completely towards the diaphragm, and the atmospheric pressure is correspondingly increased. The bowel is ballooned a greater distance along its course, often extending, in normal conditions, along the entire rectum and greater part of the sigmoid flexure. Unless the bowel is ballooned beyond the distal extremity of the proctoscope, an examination with this instrument is of little value. With the patient in this position either the proctoscope or sigmoidoscope may be safely and readily introduced, and the bowel will be distended beyond the distal end, exposing the mucosa distinctly to view. All examinations with tubular instruments are unsatisfactory if the patient is straining; in this position this difficulty obtains less frequently than in any posture that can be employed.

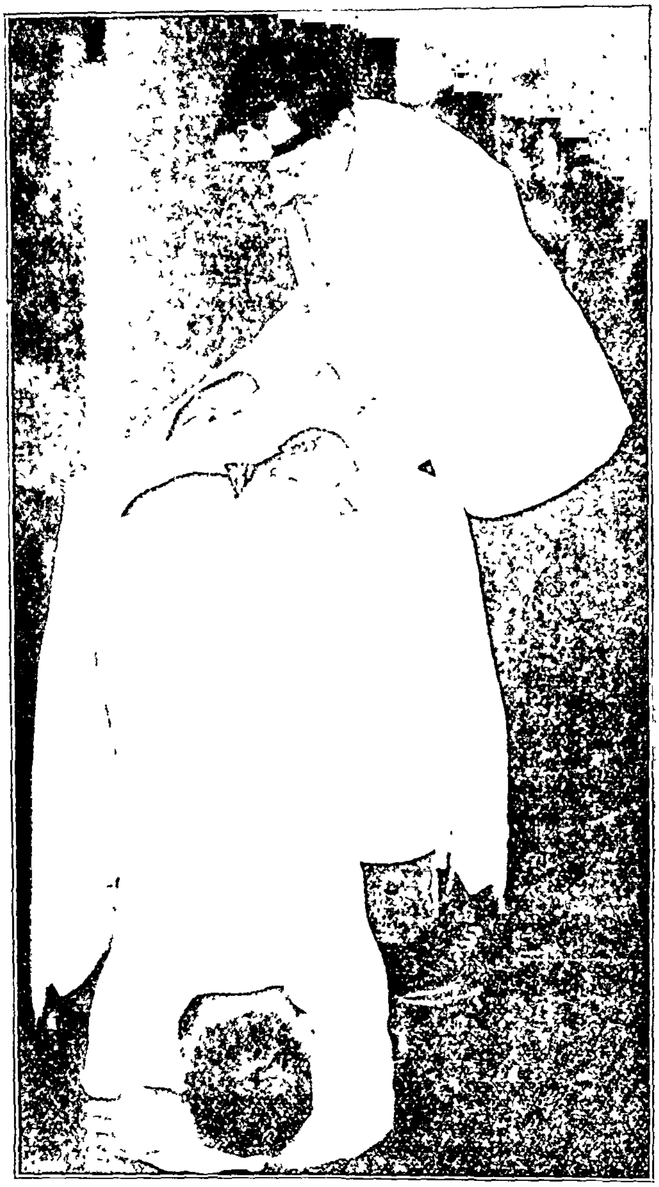
Fig. 2.—Position described in Figure 1, with chairs removed and head resting on folded arms.

In all ordinary cases an enema given two or three hours previous to the time of examination will thoroughly cleanse the lower bowel. The patient is placed in the position previously described; the surgeon stands erect and introduces the proctoscope gently into the bowel, the obturator being removed as soon as it passes the sphincter muscle; the air can be heard to rush in, and the bowel is distended so as to admit of the easy passage of the instrument as above described. With the head mirror, sunlight (which is preferable) or electric light may be used to illuminate the entire mucous surface. When illumination is obtained by an electric bulb placed at the distal end of the tube, as in the electrosigmoidoscope, the tissues assume an unnatural reddened hue; when the light is reflected as above described, the tissues exhibit their normal appearance. Artificial distention is seldom necessary. and there is no window, therefore, in the proximal end of the instrument to interfere with treatment, obtaining specimens, etc. If it is desired to cleanse the bowel more thoroughly by passing water higher into the sigmoid or colon, this can be done by pouring the fluid through the tube as if it were a funnel, which is shown in Fig. 2. The quantity of water that will be retained, when introduced in this way, is surprising; and it readily passes the ordinary obstructions met with in using the colon tube. The mucous surface of the bowel is so fully exposed that ulceration, both as to extent and character, is readily determined. Scrapings may be made for microscopic examination; local applications can be made with precision, and through the tube of large size the Paquelin or electric cautery may be applied to ulcers.

SUBMUCOUS RESECTION OF THE LATERAL NASAL WALL IN CHRONIC EMPYEMA OF THE ANTRUM, ETHMOID AND SPHENOID.*

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A certain reaction is setting in against radical operations in the treatment of chronic nasal accessory sinus disease. This is due to several causes. Those relative to the sinuses under discussion, i. e., the antrum, ethmoid and sphenoid are as follows:

1. Many unnecessary radical operations have been performed. Cases which had proved obstinate to conservative measures have been operated on radically only to demonstrate that but a moderate degree of pathologic change had taken place, and that the chronicity of the disease had been established by insufficient drainage or by some anatomic peculiarity in the size or shape of the cavities.

2. Of those patients operated on radically through the canine fossa by the most widely accepted methods, with perfectly satisfactory results as far as curing the discharge is concerned, some suffer such distressing symptoms, due to trauma of the soft tissues of the cheek and to extensive destruction of the nasal mucous membrane, that the amount of benefit which they have received may be considered problematic.

3. Many cases operated on by radical methods have failed of complete cure. This has been ascribed to several causes, such as: (a) Great size of the antrum; (b) Character of the pathologic process; (c) Combination with disease of other sinuses. Some one or all of these causes are no doubt at work in a great many of these cases. However, failure has occurred in some of my own cases in which the Luc-Caldwell operation had been made and in which no one of these conditions had obtained. This led to the belief that irregularities in the healing process had taken place which had prevented a satisfactory convalescence. This belief was strengthened by observations made during secondary operations performed in two cases which had been operated on previously after the Luc-Caldwell method, and which continued to discharge pus into the nose. In one of these cases, several pockets had formed in the deeper parts of the antrum within which pus collected, and from which it was discharged spasmodically into the nose. In the other case, exuberant granulation tissue formation was the cause of failure. It was perfectly [illegible] had the after treatment been carried out

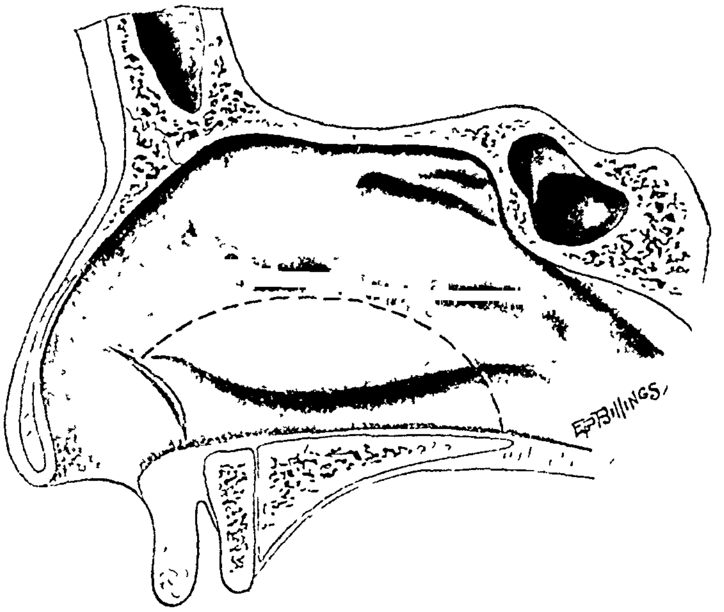

Fig 1.—Initial incision along lateral wall of piriform opening Dotted line shows line of incision of mucous membrane flap to be made later. (Note that the dotted line passes through the mucous membrane of the lateral wall of the nose outside the inferior turbinate, i. e., the median wall of the antrum. The turbinate is not removed or disturbed.

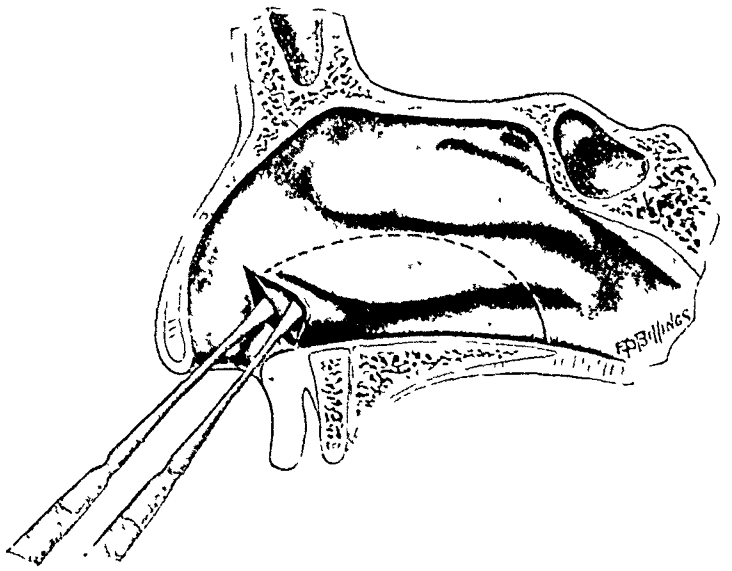

Fig. 2.—Elevation of mucous membrane of median wall of antrum in direction of dotted line. Turbinate not removed but remaining in original position.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

under visual control, satisfactory results would have been secured.

With that in mind I operated in three cases of chronic empyema of the antrum, and in four cases of chronic empyema of the antrum and ethmoid, after the method of Denker. This method is that of Luc-Caldwell, modified by the complete removal of the lateral wall of the piriform opening. This method gave uniformly satisfactory results so far as curing the discharge was concerned. It was, however, open to some of the objections of the Luc-Caldwell operation in that it required a long incision through the mucous membrane of the alveolus, complete resection of the anterior antral wall, and sacrifice of a large portion of the inferior turbinate. I, therefore, devised the following operative procedure which I have, in part, described previously.[1] It has for its purpose the treatment of those intractable cases of chronic suppuration of the antrum, either simple, or combined with disease of the ethmoid and sphenoid, which have resisted all less radical methods of treatment. It includes as thorough an investigation of these sinuses by the endonasal route as may be necessary in each individual case without unnecessary sacrifice of nasal mucous membrane.

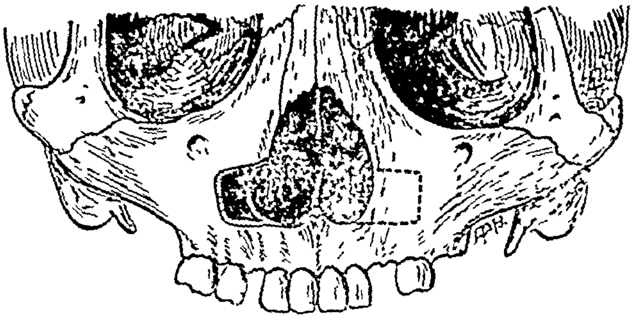

Fig. 3.—Removal of inferior half of lateral wall of piriform opening and lateral wall of nose.

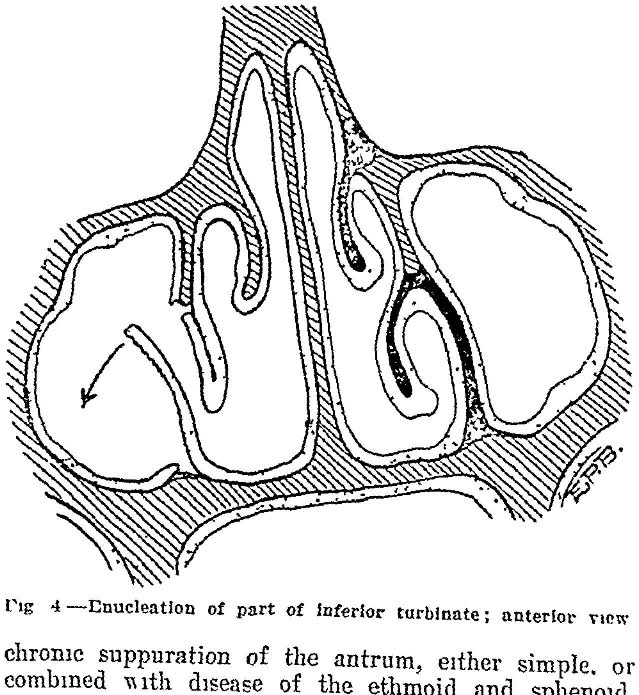

Fig. 4.—Enucleation of part of inferior turbinate; anterior view.

TECHNIC OF OPERATION.

The technic of the operation is as follows:

1. Infiltration anesthesia with ¼ per cent. cocain in 1-10.000 adrenalin solution, injected along the lateral wall and floor of the nose and the anterior antral wall. This affords complete anesthesia and an almost bloodless field of operation.

2. An incision through the soft parts of the nostril, at the junction of the modified skin and mucous membrane, i. e., the inner margin of the vestibule, beginning about the middle of the lateral wall of the piriform opening and extending well down to the floor of the nose. This incision passes through the periosteum, which is incised along the lateral wall of the piriform opening (Fig. 1).

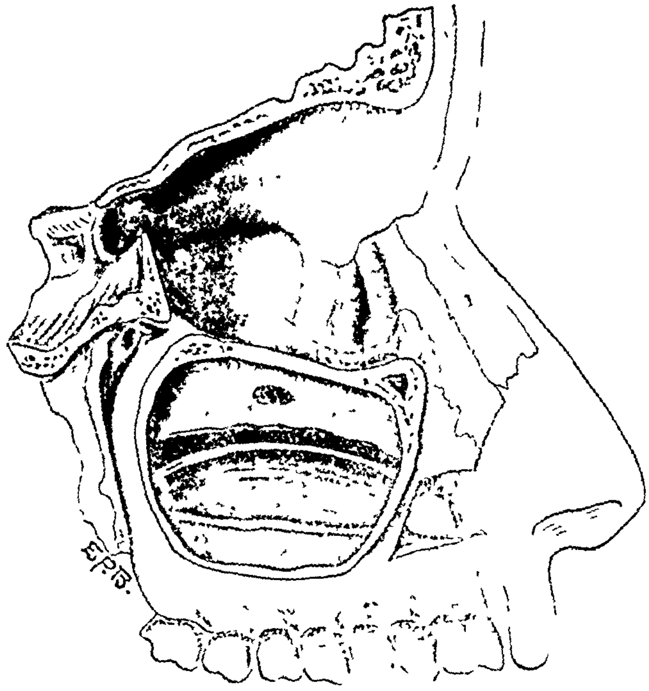

Fig. 5.—Showing how antrum is exposed fully to view; side view.

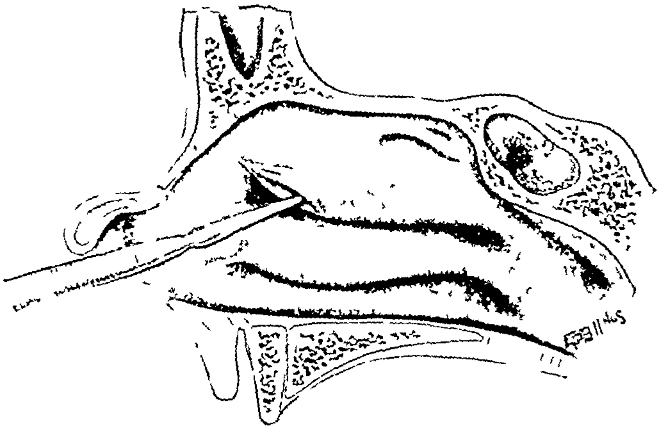

Fig. 6.—Showing manner of reaching the ethmoid through the middle turbinate.

3. Elevation of the mucous membrane and periosteum of the lateral wall of the nose from the floor of the nose upward to the level of the attachment of the inferior turbinate and backward as far as convenient (Fig. 2).

4. Elevation of the periosteum of the anterior antral wall for any desired distance.

5. Removal of the inferior half of the lateral wall of the piriform opening, and the lateral wall of the nose over an area corresponding to that part from which the mucous membrane has been elevated. During this

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[1] Annual meeting of the Middle Section of the Laryngological, Rhinological and Otological Society, Feb 22, 1907.

step the lowest portion of the lateral nasal wall is completely removed so that the floor of the nose is continued outward into the antrum without irregularity (Fig. 3).

6. Enucleation of any desired amount of the bone of the inferior turbinate without disturbing the soft tissue (Fig. 4).

7. Removal of the desired amount of the anterior antral wall, i. e., enough to allow view of the antrum (Fig. 5).

8. Penetration of the lining membrane of the antrum and inspection of the cavity.

9. As thorough curettage of the antrum as necessary.

10. Operation on the ethmoid, if indicated. The ethmoid is entered after enucleating the bone of the middle turbinate in the same manner that was employed in the case of the inferior turbinate through a vertical incision along its anterior end (Fig. 6). This very materially decreases the thickness of the turbinate, makes it easily movable, and, in the average nose, makes possible sufficient retraction of the soft tissues of the middle turbinate toward the septum to afford access to the ethmoid bulla and anterior ethmoid cells which are thoroughly curetted. The middle turbinate is then pressed laterally, which enables the operator to see the posterior ethmoid cells which are easily opened.

TABLE OF CASES OF EMPYEMA OF ANTRUM.

Case.	Site.	Symptoms	Duration of Discharge.	Previous Treatment.	Duration of Previous Treatment.	Result of Previous Treatment.	Pathologic Findings.	Result of Lateral Resection.	After Treatment.	Remarks.
1 Mr. S. .	Antrum ethmoid.	Discharge.....	3 years .	Alveolar. . . .	1 year .	No effect on discharge.	Suppurating mucous membrane.	Cessation of discharge.	10 days.	Controlled after 4 mos.
2 Dr. B. .	Antrum-ethmoid.	Trifacial neuralgia; discharge.	4 years..	Alveolar. . . .	1 year .	No effect on discharge.	Stinking pus, granulations, polyps.	Cessation of discharge; temporary relief of pain.	3 weeks.	Resection of infraorbital nerve c; relief from pain; controlled.
3 Mr. I. .	Antrum, ethmoid.	Discharge....	1 year. .	Alveolar. . . .	1 year. .	No effect on discharge.	Suppurating mucous membrane.	Cessation of discharge.	2 months.	Controlled after 4 mos.; Syphilis.
4 Mr. D. .	Antrum . .	Discharge. . .	2 years .	Alveolar and inferior meatus.	1 year. .	Slight effect on discharge.	Suppurating mucous membrane, exuberant granulations at upper end of sinus through teeth.	Cessation of discharge.	Referred to home physician.	Controlled after 1 year.
5 Miss S. .	Antrum .. .	Pain. discharge; pul. tuberculosis	1 year. .	Inferior meatus.	6 months.	Discharge ceased, but recurred.	Tuberculous grans. on turbinates, septum and in antrum.	Cessation of discharge; relief from pain.	2 months.	Gain of 21 pounds; controlled after 1 year.
6 Mr. G....	Antrum, ethmoid, R.	Discharge....	8 years .	Inferior meatus and middle meatus; many operations.	8 years..	No effect on discharge.	Polyp in nose. antrum and ethmoid; suppurating mucous membrane.	Cessation of discharge.	Occasionally for 3 months.	Controlled after 6 mos.
7 Mr. Y...	Antrum, ethmoid, L.	Discharge....	8 years .	Many operations thro' inferior and middle meatus.	8 years .	No effect on discharge.	Polyp in nose. antrum and ethmoid; suppurating mucous membrane.	Small am't of discharge in posterior ethmoid cell.	Occasionally for 3 months.	Disappeared from treatment.
8 Mr. C...	Antrum, ethmoid, sphenoid. frontal.	Frontal and occipital pain; discharge.	6 years .	Killian frontal operation; inferior meatus.	Several weeks.	Cure of frontal; improvement in antrum.	Foul pus in all accessory sinuses; polypoid mucous membrane.	Cessation of discharge.	2 months.	Controlled after 8 mos.
9 Mr. H...	Double antrum frontal and ethmoid.	Pain (L.); discharge.	10 years.	Radical frontal (double) alveolar.	6 years .	Cure of frontal; discharge persists thro' alveolar.	Foul pus; suppurating mucous membrane; exuberant granulations.	Cessation of discharge (L).	1 month.	Left side only operated; patient disappeared.
10 Mrs. D-l	Antrum .	Discomfort. discharge.	Years. .	Inferior meatus.	Several months.	Slight effect on discharge.	Stale pus; suppurating granulations.	Cessation of discharge.	3 weeks.	Controlled after 6 mos.
11 Mrs. D-w.	Antrum . .	Pain in teeth and cheek; discharge.	1 year .	Alveolar. . .	1 year. .	No effect. .	Stinking pus; polyps.	Cessation of discharge.	2 weeks.	Controlled after 4 mos.

11. Removal of the anterior wall of the sphenoid if indicated. Satisfactory view of the sphenoid is secured. in the absence of a deviation of the septum toward the affected side, by pressing the soft tissues of the turbinate laterally into the region of the ethmoid. If an obstructing deviation of the septum is present, it must receive attention before the operation on the accessory sinuses is begun. With the anterior wall of the sphenoid well in view, its removal is accomplished without difficulty.

12. Formation of a flap of mucous membrane from that part of the lateral wall of the nose beneath the level of the attachment of the inferior turbinate (i. e., the median wall of the antrum).

13. Removal of the deepest portion of the median wall of the antrum. This permits continuous drainage of the deepest parts of the antrum and prevents the formation of granulation tissue at this point. This step is postponed until the end of the operation because troublesome bleeding sometimes occurs from a branch of the lateral nasal artery when this piece of bone is removed.

14. Careful approximation of the mucous membrane flap to the floor of the antrum.

15. Packing the antrum and nose with vaselin gauze.

DIFFICULTIES OF OPERATION.

The difficulties of the operation are those encountered in the submucous resection of the septum increased by the fact that the lateral wall of the nose is often sharply concave, that the bone of the lateral wall of the piriform opening is very dense and that the periosteum of the anterior antral wall is sometimes very adherent. Considerable difficulty was experienced in the first operations in saving the flap without perforation. While perforation or even loss of the flap is possibly of less importance than is the same accident during the submucous resection of the septum, still it is much better technic to save it, as it certainly shortens the period of observation necessary after operation.

The operation on the ethmoid is the most difficult step in the entire operation. The anatomic configuration of the ethmoid is so varied that cells may escape notice during even the most painstaking examination. However, the removal of the lateral wall of the piriform opening, and the enucleation of the bones of the turbinates make possible a very satisfactory view of this region.

AFTER-TREATMENT.

The after-treatment is very simple. The gauze is removed on the fourth or fifth day and the operative field is inspected and wiped dry. The packing is not reinserted. In some of my cases of antrum disease, not combined with disease of the ethmoid, no further treatment was necessary. Daily inspection of the antrum showed the cavity to contain only the slightest trace of moisture, which disappeared entirely within a surprisingly short time. This took place in cases which had been treated for long periods of time by other methods. In other cases, granulation tissue formed within the antrum, and necessitated the occasional use of the ring curette and the silver nitrate crystal. As the entire cavity could be seen this irregularity in the healing process caused not the slightest inconvenience or delay. In one case incomplete removal of the deepest portion of the median wall of the antrum permitted the formation of granulation tissue and collection of secretions at this point. The removal of the piece of bone permitted a speedy convalescence.

Cases in which extensive disease is present in both antrum and ethmoid present the greatest difficulties during operation and throughout the after-treatment. The latter must be carried out during a longer period than is required for cases in which the antrum alone is involved.

This operation seems to me to possess several advantages which make it worthy of further trial.

ADVANTAGES OF OPERATION.

1. It can be performed under local or general anesthesia.

2. It can be made just as radical or just as conservative as may seem wise, as the operation proceeds. This permits the operator to advise it in cases that have resisted other treatment, but in which he hesitates to advise such an operation as the Luc-Caldwell. It is also suitable for the most extensive combined cases of antrum, ethmoid and sphenoid disease, as it offers direct and adequate approach to all these sinuses. It accomplishes, therefore, all that the most radical operation previously described is able to do.

3. Surcharging the lymphatics with a saline solution forcible retraction of the soft tissues of the cheek than do any of the operations through the canine fossa. This results in very much less swelling of the soft tissues subsequent to the operation, and a minimum loss of function of those branches of the trifacial that supply that region. Many patients, after the Luc-Caldwell operation, complain of numbness in the cheek and upper lip, while others complain not only of loss of sensation but of pain over that area. This has not been noticed after the operation just described.

4. It offers a most satisfactory view of the antrum, ethmoid and sphenoid, and maintains it throughout the after-treatment. This enables the observer to control the healing process quite as successfully as after the radical mastoid operation.

5. It may be divided into several steps which can be performed at different times; thus the antrum operation can be done at one sitting, the ethmoid at a second, and the sphenoid at a third, if desired. Although the small number of operations I have performed more or less after the method described is not sufficient for generalization on this point, I think that in many cases the antrum, ethmoid and sphenoid can be radically exposed with the destruction of practically no nasal mucous membrane. Probably, in some narrow noses, the middle turbinate may have to be sacrificed. This will certainly not be the case, however, in those cases in which the preservation of the middle turbinate is most essential to the patient's comfort, i. e., in broad noses or those in which there is a tendency toward atrophic rhinitis. In such cases the importance of preserving both middle and inferior turbinates is recognized.

6. It simplifies the after-treatment. In some cases after-treatment is quite unnecessary. They pass on to complete recovery without incident. In others, wiping out with cotton, and occasional irrigation or cauterization are indicated. Inasmuch as the entire antral cavity is at all times under prefect visual control, its after-treatment is carried on easily and without inconvenience to the patient.

7. Finally, it has given me more satisfactory results than has any other method I have tried. Of the twelve patients I have operated on, eleven have made complete recoveries, with cessation of all discharge, while the twelfth patient showed at the last observation some discharge in a high posterior ethmoid cell. The accompanying table gives the most important points in these cases.

ABSTRACT OF DISCUSSION.

Dr. J. W. Murphy, Cincinnati: At first glance the removal of so much of the anterior wall of the maxillary sinus in order to treat some diseased condition of its interior seems to be a very radical, not to say heroic, procedure. We all know that if we can thoroughly drain a suppurating cavity we shall not have much difficulty in successfully treating and stopping the source of the discharge. The chief difficulty encountered by the usual methods for opening these sinuses, either by the canine fossa, the usual method, or the Luc-Caldwell operation through the lateral wall of the nose, have been that the opening, which seemed ample at first, would often contract and close before epidermization was completed, and the retention of pus with the presence of granulation tissue would soon destroy the beneficial effects of the operation. Then, too, the cavity operated on was after a short time not open to ocular inspection. By the method proposed by Dr. Canfield, the removal of the anterior wall of the pyriform opening of the nose, the whole of the antrum is under the control and direct inspection of the surgeon.

Another important feature of this operation is that the nasal wall and ridge of bone between the floor of the nose and the floor of the antrum is entirely obliterated, and the mucous membrane of the wall is brought down so as to cover the denuded bone on the floor of the antrum. While I often chose the alveolar route I was never quite satisfied with it, since it necessitated communication between the mouth and diseased sinus.

Then, too, a fistulous opening was so often established that the patient was compelled to wear a metal or hard rubber plug to prevent the entrance of food into the cavity. By this method there is no communication between the antrum and the oral cavity. Another important feature is that the opening is so ample and the drainage so complete that after-treatment, usually of more importance than the operation itself, is rendered so simple and the time of after-treatment so much shortened. that often it can be carried out by the family physician. Since the advent of the submucous operation on the septum, and the success attendant on it, it seems but natural that a similar procedure and technic should follow in the opening of the accessory cavities of the nasal space. It is analogous to the radical mastoid operation, and should be reserved for those cases of chronic suppuration in which less radical methods have been resorted to, but in which sufficient drainage could be maintained only by removing entirely the lateral nasal wall so as to form one large cavity, easy of treatment and ocular inspection.

Dr. Charles H. Baker, Bay City, Mich.: I can not see from Dr. Canfield's description of the operation any reason whatever for doing a submucous operation. It seems to me that he has missed the point; that the thing which he has accomplished, and the thing we should all seek to accomplish, is better drainage than we have had from previous methods of operation. This method which he has outlined carries the incisions clear back and removes the lateral wall, and leaves a big hole, instead of a little hole which soon closes in a chronic case. What is gained by the submucous operation? Simply a flap which can be turned on to the wall of the sinus. Is there any advantage to be gained by that? I say no, because it is not necessary to curette the whole sinus. There are some cases in which it is necessary to curette, but in many it is not, provided the drainage is sufficient. If you will carry out your opening to the opening of the pyriform opening and chisel off the lower margin of the junction between the nasal cavity and the floor of the antrum you have accomplished what you desire—free drainage—and then you have left a mucous surface lining both antrum and nasal cavities with a narrow line between, over which granulations readily form, and you have no necessity for this great flap of mucous membrane which will atrophy, unless you have curetted the wall of the antrum, for there is nothing for it to be attached to. I do wish to congratulate Dr. Canfield on the thoroughness with which he gets access to these sinuses and the size of the opening which he procures by this means, thereby doing away with probable closure afterward.

Prof. A. Jansen, Berlin: I have used for fifteen or eighteen years that step of the operation which consists of the formation of a flap of mucous membrane, but did not find that the flap served as a source of epithelium for the parts of the cavity not covered by it. I therefore advise against making it. Even the complete removal of the nasal wall, as advised in Dr. Canfield's paper, will not always prevent some collection of secretion at the bottom of the maxillary sinus with the patient in the upright position, because in many persons the floor of the sinus lies about a centimeter below the level of the floor of the nasal cavity. However, drainage is not the only thing that brings about a cure in the treatment of empyema of the antrum of Highmore, other things, especially free ventilation, being of great importance. I regard the removal of the whole turbinate as an objection to Dr. Canfield's procedure and disapprove of removal of more of the nasal turbinated bodies than is absolutely necessary. The chief disadvantage of radical turbinotomies is their leaving the nasal cavity too roomy; this favors the collection of secretion in the nose, makes its expulsion difficult and may create obstinate scabbing in some instances. I have very rarely accomplished a cure of chronic empyema of the antrum of Highmore by removing its nasal wall submucously. I have followed such cases for from one to two years and the good results have been so rare that I have given up the procedure. My experience includes about 300 cases.

Dr. Emil Mayer, New York: I think that the method in a long line of cases will do more good than the statements of the last two speakers would indicate. I have had the pleasure of seeing Dr. Jansen's work and patients. The number of patients that present themselves with serious conditions in many of the larger cities of Germany can not be paralleled in this country; therefore we can not make a valid comparison. I have seen cases of maxillary antrum disease in which the antrum was opened as freely as is proposed by Dr. Canfield, and these patients have remained absolutely well. To open the antrum a very ingenious device has very lately been presented by my assistant, Dr. Yankauer, in New York, which consists of a combination of a hook, as presented by Myles of New York, and a ring chisel which slides over the hook. A small hole is made in the antrum, the hook is placed in and the chisel is pushed forward so as to cut out a sliver of bone. It is removed, the bone extracted, and so one continues until as large an opening as is desired is made; and the operation is comparatively easy to do. One little advantage the instrument has is that when the chisel is slipped over, it has at the end a roughened edge so that a hammer could be used. I feel that these future operations will be largely intranasal. I have seen patients that I am sure would at one time have been submitted to external operation get entirely well—in time, it is true, but without disfigurement, without delay from their every-day work.

Dr. Otto T. Freer, Chicago: I regard it as certain that in time the operation through the alveolar process and buccal walls of the antrum will be completely abandoned. I regard the operation proposed by Dr. Canfield for making this opening as needlessly formidable and elaborate for all but the extremely rare cases in which caries of the antrum exists, tumors are to be removed or in which the suppuration has extended beyond the confines of the maxillary sinus in the severe form of the disease classified by Killian as sinuitis maxillaris exsudans sive exulcerans. No good reason can be found in ordinary cases for beginning the removal of the nasal wall at its very front by resecting the outer wall of the apertura pyriformis, thus including a firm strong part of the facial skeleton in the bone cut away with the possibility of deformity, however slight, in an occasional patient. I do not think it necessary to have the wide entrance to the antrum. In my experience, to produce speedy cessation of the suppuration and complete recovery, it is merely necessary to insure permanent ventilation of the antrum by an opening made in its nasal wall by means of the trephine and a knife-edged cutting bur of my devising, both driven by a high-speed electric motor. I described this operation in the *Laryngoscope* and *Chicago Medical Recorder* in 1905. As a preliminary to the opening of the antrum the anterior half of the inferior turbinated body is cut away, a procedure which in my hands has never led to permanent bad effects, such as scabbing, crusting or atrophic rhinitis, so that I regard it as harmless. The opening should extend from the nasal floor up into the middle meatus and reach well forward and back, and if made large enough, it will remain permanently open. I saw closure of the opening in only one case in which the patient would not permit sufficient reaming out of the hole with the bur. In my experience, under the influence of drainage and ventilation, polypoid thickening and hypertrophy of the lining of the antrum always return to a normal condition. I do not curette the interior of the antrum and prefer to preserve its mucosa intact. I have seen 17 consecutive recoveries in 17 patients operated on by this method, and regard it as one of the most certain and satisfactory procedures in rhinology. The chisel and cutting forceps have been substituted for the trephine and bur instruments for the purpose by others, but I have found that the implements of precision and speed for the work are the ones mentioned. The main point I wish to bring out is that a complete removal of the nasal wall of the antrum and the opportunity to inspect the whole interior of the cavity are not needed and that an opening sufficient to give permanent free ventilation and drainage suffices in all but the rarest cases of suppuration of the antrum.

Dr. W. E. Casselberry, Chicago: Assuming a case in which it is determined that the intranasal operation is best and suitable, shall one trouble to make this elaborate submucous dissection of the intranasal wall, or simply make the usual, quicker, and, it is said, easier operation originally credited to Krause but recently amplified and reintroduced by Freer, Myles, Corwin and others? I admire the technic and the ability that Dr. Canfield has displayed in his new submucous method, and I think that it may possess certain important advantages that will justify us and repay the patient for the additional length and for the tediousness of it. I have experienced immense difficulties myself in operating by the so-called easy methods, the usual one of Freer and others, by simple removal of a variable part of the antro-nasal wall.

The first difficulty I encounter pertains to the lateral curvature of the outer bony wall of the nose, which, just within the nostril, makes an angular bend which is difficult to see around, making it necessary to place instruments, guided by touch or by knowledge of direction alone. By penetrating under the membrane we should be able to displace the ala nasi and the tissues of the face somewhat to the side, securing thus a direct straight tunnel of access. If so, the first difficulty in the intranasal operation would be obviated rather than augmented by the submucous method. The second great difficulty is from hemorrhage. After using adrenalin to the limit, there are many persons in whom the bleeding is still enough to befog the view. In operating in a deep cavity a bloody field will dim the brightest light. We have learned from the now accepted submucous septum operation that we can see more distinctly through the small incision and to a far greater depth within the raised ballooned mucosa, because the field is less bloody, than we could by the old surface methods of septum operating, for the larger vessels are raised with the mucous membrane and perichondrium. Probably Dr. Canfield has found the same advantage in the submucous antrum operation. If so, it would go far to compensate for the tedious technic.

Dr. G. Sluder, St. Louis: For several years I have done an operation, in wide noses, which is simpler than this and accomplishes this saving of the lower turbinate. It consists of a scissors cut which detaches the lower turbinate back to its posterior fourth. The detached portion of the turbinate is then pushed upward. The window is then made into the antrum and the turbinate put back into its original position, where it reattaches itself. When the healing is complete the turbinate is normal in its position with the antrum opening underneath it. These cases have been satisfactory after three years' standing. In narrow noses I remove one-half or two-thirds of the lower turbinate, because more breathing space is necessary.

Dr. J. E. Logan, Kansas City: In the extensive operative procedures carried on to-day in opening the sinuses I believe that we fail to realize the disappointing results that we often get. These procedures leave a great deal of cicatricial tissue in which atrophy is likely to follow, and they break away or take away the inferior turbinate, which is a most useful body for the distribution of nutrition to the nasal cavity. They destroy to a great extent the power and function of that organ. This flap pressed back into the maxillary sinus will of necessity leave cicatricial areas, which condition is very undesirable. Such a radical procedure as this suggested by Dr. Canfield must be resorted to only in extreme cases, as it is possible to relieve most of these cases by simpler methods.

Prof. A. Jansen, Berlin: In my treatment of empyema of the maxillary antrum I operated through the buccal wall and through the nasal wall at first and was annoyed by persistent granulations and the failure to heal. I used to operate with primary closure by the Caldwell-Luc method, which I employed before those authors described it. The whole nasal wall was taken away, with primary closure of the buccal opening. At present, in difficult chronic cases, I do not take away the nasal wall, but leave the opening made into the mouth open and implant Thiersch grafts in the antrum, thus leaving a permanent communication between it and the mouth. In cases of slight gravity, or those which are only of moderate severity, I operate through the nasal wall. In syphilitic cases the prognosis of operation through the nasal wall, combined with specific treatment, is favorable.

Dr. W. W. Carter, New York: I think that this is one of the most ingenious submucous operations yet devised, but that in it the full value of that turbinate tissue is not taken into account. When that tissue is turned down into the antrum it is thrown out of the direction of the incoming current of air, and is, therefore, not useful functionally. I think that the nasal cavities would be broadened too much by this operation, and that is the very thing we must obviate, because it does favor atrophy.

Dr. S. F. Snow, Syracuse, N. Y.: It seems to me that in these cases the question whether we shall try to save the mucous membrane or not is fully answered by the case itself as it presents. In those that have come under my care I have found that the tissues were so degenerated, and in some instances polypoid, that the question of doing a submucous operation would never occur to me, and I have freely sacrificed the tissue. I used the nasal cutting forceps, trimming away the tissues with all the freedom required, because they were white, degenerated polypoid masses, with the underlying bone so soft that a stiff curette would scrape them right out, and in two cases I got such a free view of the antrum as Dr. Canfield describes. For five years I have done no work through the canine fossa, but my operations on the antrum have been through the lateral wall of the nose, and they have all been successful. Some of the cases were very bad ones, too, and the free, complete drainage obtained from the cavity has resulted in a cure.

Dr. George P. Marquis, Chicago: I think that one of the chief points which Dr. Canfield brings out here is one which the foreign operators, such as Professor Jansen, Hajek and Killian, have tried and discarded, and that is the preservation of this membranous flap. It seems to me that we really are going backward to take this up and provide in the antrum a stimulating cause for further secretion.

Dr. R. Bishop Canfield, Ann Arbor: I stated in the paper that this operation was for use only in the most intractable cases. The nasal mucous membrane and the turbinates are important. This operation destroys almost no mucous membrane. The mucous membrane that forms the flap that is turned down over the floor of the antrum is not formed from the turbinate, but is formed from the mucous membrane of the median wall of the antrum. If that flap keeps up secretion it can be sacrificed. At present I am not sacrificing any nasal mucous membrane except that which covers the posterior ethmoids. The mucous membrane of the lateral wall is even more important than that of the septum. It is necessary to the physiologic activity of the nostril. Consequently I attempt to preserve it. In my experience with antral cases the flap has hastened healing. I may be glad to discard it later. If the antrum were simply a pus pocket it could be cured by drainage, but the intractable cases to which I refer are ones in which remarkable pathologic changes have taken place in the nostril and in the mucous membrane of the sinuses. These cases can not be cured by drainage. In all the cases in which I have operated according to the method described operations had been previously done by other methods. As I have said, the entire lateral nasal wall is preserved with the exception of the median wall of the antrum underneath and outside the turbinate. Such an opening must be made, no matter what operation is done. By making it as I suggest a view can be obtained into the antrum at the time of operation and during the after-treatment. This does not mean that the inferior turbinate is sacrificed or that the air current plays into the antrum. The turbinate later falls down over the opening so that two or three months later you would never know that the antrum had been operated on unless you should cocainize the turbinate, lift it up and look into the cavity. Because the turbinates are preserved, this operation is especially suitable to cases of atrophic rhinitis. Atrophic rhinitis is frequently associated with disease of the nasal accessory sinuses and can not be relieved until these cavities are taken care of. They must be operated on without unnecessary sacrifice of nasal mucous membrane if there is any left.

One speaker advocates operating through the canine fossa and leaving the buccal wound open. Any permanent communication between the nose and the mouth creates a disgusting condition. Then, too, a permanent opening through the canine fossa frequently causes permanent symptoms—lightheadedness, sense of cold, continued pain and some anesthesia of the cheek. These symptoms are not present in the cases in which operation is done by my method. It is difficult to see into the deeper parts of the nasal cavity, and this operation, since it is rather technical, calls for a bloodless field. This can be secured by injecting cocain and adrenalin (0.5 per cent. cocain in adrenalin 1-10.000), along the lateral nasal wall and floor of the nose. Briefly, this operation is to offer an intranasal method of operating on intractable empyema of the antrum, ethmoid and sphenoid without disturbing the function of the nose or destroying the nasal mucous membrane.

COMPARATIVE EXPERIMENTS ON THE PRESENCE OF COMPLEMENT BINDING SUBSTANCES IN THE SERUM AND URINE OF SYPHILITICS.*

UDO J. WILE, M.D.
BERLIN, GERMANY.

In 1906, Wassermann, Neisser and Bruck[1] published a series of experiments demonstrating that when the inactivated serum of a syphilitic patient was brought together with an alcoholic extract of syphilitic tissue, for example, congenital syphilitic liver, and a small amount of normal complement (guinea-pig serum) was added, a reaction took place between these three substances, this reaction being indicated by the addition of a hemolytic system. This reaction has since been known as the Wassermann reaction.

In 1907 Bab[2] investigated the milk of syphilitic women and found that here also the complement-binding substances were demonstrable, and in June, 1908, Franz Blumenthal and I[3] published a preliminary report on the presence of complement binding substances in the urine of syphilitics. We tested the serum of 50 patients, and simultaneously applied the same test to the urine, using the latter at first in three concentrations, 1 c.c., 0.5 c.c. and 0.2 c.c., later using only 1 c.c., as it was found that the reaction occurred most uniformly in this concentration.

It is the purpose of this paper to give the results of the investigation of 100 cases, in which both serum and urine were tested, to compare the relative value of each in the diagnosis of syphilis, and, if possible, to show the influence of treatment received, on the presence or absence of the reaction.

Of the 100 patients examined, 76 were, or had been syphilitic, 24 were control or normal cases. Among the 76 syphilitics we found a positive reaction in both serum and urine in 50; in 15 the reaction was negative in both serum and urine: in 8 it was positive in the serum and negative in the urine, and in 3 it was negative in the serum and positive in the urine. (Table 1).

A most interesting fact was noticed in certain of the cases in which the urine was positive, in that no hemolysis occurred in the control test tube, containing urine plus complement, plus hemolytic serum, and in our preliminary report we suggested that the urine might contain substances which in these cases acted in the same manner as the syphilitic extract.

In general, the results were more striking in the serum than in the urine, although in a few cases sent to us for diagnosis the reaction occurred much stronger in the urine than in the serum. In practically all of the cases studied it was noticed that hemolysis was retarded or to a slight degree prevented by the urine, and, keeping this fact in mind, we counted only those cases positive in which there could be no question as to the prevention of the hemolysis.

Of the 24 control cases, 22 were found uniformly negative in both serum and urine: in one case, in which scabies was present, a weak positive reaction was found in the urine, and in this case it may be noticed (see table) that the reaction in the serum was not entirely negative. In the other control case, in which we were dealing clinically with a soft chancre, the urine showed a strong positive reaction, while the serum was negative. In this case no evidence of syphilis was present at the time and a previous infection could most probably be excluded.

TABLE 1.*

Case No.	Diagnosis.	Serum.	Urine.
1.	Lues II	+++	+
2.	Latent Lues	++	+
3.	Lues II	++	++
4.	Normal case	—	—
5.	Lues II	+	+
6.	Lues II	+++	+
7.	Normal case	—	—
8.	Scabies	0	+
9.	Lues II	+++	+++
10.	Normal case	—	—
11.	Lues II	+++	+++
12.	Lues II	+	—
13.	Lues II	0	0
14.	Lues II	+	+
15.	Lues II	+	++
16.	Normal case	—	—
17.	Normal case	—	—
18.	*Lues II*	0	0
19.	Lues III	—	—
20.	Lues II	++	+
21.	Lues II	—	+
22.	Lues II	+++	+++
23.	Lues II	+	—
24.	Lues II	+++	+++
25.	Latent Lues	—	—
26.	Lues II	—	—
27.	Lues III	++	++
28.	Lues I and II	+++	++
29.	Lues II	—	—
30.	Lues I and II	+++	—
31.	Normal case	—	0
32.	Lues II	++	+++
33.	Lues III	++	++
34.	Lues II	++	0
35.	Lues	++	+
36.	Lues II	+++	++
37.	Lues II	+++	+
38.	Lues II	++	0
39.	Normal case	—	—
40.	Latent lues	+++	+++
41.	Lues I	—	+
42.	Lues III	++	+
43.	Lues II	+	+
44.	Lues II	+++	—
45.	Lues II	+++	+++
46.	Lues II	+++	+++
47.	Normal case	—	—
48.	Latent lues	+++	+++
49.	Lues III	+	+++
50.	Lues III	+++	++
51.	Lues II	+++	++
52.	Lues II	+++	—
53.	Ulcus molle	—	+++
54.	Lues II	++	++
55.	Lues II	++	—
56.	Lues II	+++	+++
57.	Lues II	++	+
58.	Lues I and II	+++	+
59.	Normal case	—	—
60.	Lues II	—	—
61.	Lues III	+++	+
62.	Latent lues	+	+
63.	Latent lues	—	—
64.	Normal case	—	—
65.	Lues II	—	—
66.	Normal case	—	—
67.	Normal case	—	—
68.	Normal case	—	—
69.	Normal case	—	—
70.	Normal case	—	—
71.	Lues II	+++	+++
72.	Lues II	—	—
73.	Latent lues	+++	+++
74.	Latent lues	+++	+++
75.	Latent lues	—	—
76.	Tabes latent lues	++	+++
77.	Normal case	—	—
78.	Latent lues	0	0
79.	Normal case	—	—
80.	Lues III	+++	—
81.	Latent lues	—	—
82.	Lues III	+++	+++
83.	Latent lues	+++	—
84.	Latent lues	+++	++
85.	Lues III	+	+++
86.	*Heredit. lues*	+++	+
87.	Normal case	—	—
88.	Latent lues	—	++
89.	Lues II and III	+++	+++
90.	Normal case	—	—
91.	Normal case	—	—
92.	Lues II	+++	+++
93.	Latent lues	+	++
94.	Lues II	—	—
95.	Lues II	+++	+++
96.	Normal case	—	—
97.	Lues III	++	+++
98.	Latent lues	+++	—
99.	Latent lues	+++	+++
100.	Normal case	—	—

*Number of crosses notes strength of reaction; 0 = interpreted as negative reaction.

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*From the Dermatologic Clinic of the University of Berlin. Director: Geh. Med.-Rat Prof. Dr. Lesser.

[1] Deutsch. med. Wchnschr., 1906, No. 19.

[2] Deutsch. med. Wchnschr., 1907, No. 30.

[3] Berl. klin. Wchnschr., 1908, No. 22.

Of the 50 cases in which both serum and urine were positive this result was obtained as early as five weeks after the infection and as late as twelve years afterward. In the 15 cases of syphilis in which the serum and urine were both negative this result was found as early as five weeks after the infection and as late as 15 years afterward. Of the 13 negative cases, however, 9 patients had been infected two or more years previously, thus indicating that in general the reacting substances tend to disappear spontaneously in both serum and urine after a lapse of a few years.

Of the 8 patients in whom the serum was positive and the urine negative, 3 were infected less than two months before, and at the other extreme was one patient with an infection dating back thirty years. The first 3 cases agree entirely with the observation that the reaction appears later in urine than in serum.

In the three cases of syphilis in which the serum was negative and the urine positive, two patients had been infected about two years previously and the third patient's was a very early case (primary sore).

The effect of treatment on the presence or absence of the reaction was first studied by Citron,[4] who showed that under vigorous treatment the reaction tended to disappear in the serum. Of our 75 patients a large proportion were in the early secondary stage of lues, and up to the time of their examination had received little or no treatment whatever. A majority of these gave positive reactions in both serum and urine. For accuracy of figures it would be better to select only the cases of latent and tertiary lues, and those sent for diagnosis which proved to be lues. Of these there were 31 cases, of which 20 were positive in both urine and serum: 9 of these 20 had received no treatment whatever, 10 had received inefficient treatment, consisting of a few injections or inunctions, and the remaining case alone had been through six courses of injections.

In 10 cases of latent lues in which both serum and urine were negative all but one had received vigorous antiluetic treatment, and finally, in the remaining one case which showed a negative result in the serum, and a positive one in the urine, there had been but four courses of twelve injections of mercury salicylate. (This last case does not seem to be of any significance as illustrating the effect of treatment on the reaction).

CONCLUSIONS.

The conclusions which may be drawn from these statistics are as follows:

1. The urine in a large percentage of cases of syphilis contains substances which behave in the same way as the antibodies in the serum of the same cases.

2. These substances seem to appear a little later in the urine than in the serum and at times are present in one and not in the other and vice versa.

3. The diagnostic value of the reaction in the urine must for the present be viewed with caution inasmuch as in 2 per cent. of our total number of cases a positive reaction was found in the urine while the serum in these cases was negative.

4. In both serum and urine these bodies tend to disappear under vigorous antisyphilitic treatment.

I take this opportunity of extending my sincere thanks to Dr. Franz Blumenthal, under whose direction this work was undertaken and to whom I am indebted for many valuable and kind suggestions.

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[4] Deutsch. med. Wchnschr., 1907, No. 29.

THE ANEMIA OF HEPATIC CIRRHOSIS SIMULATING THE PERNICIOUS TYPE.

JAMES E. TALLEY, M.D.
PHILADELPHIA.

It appears pretty generally admitted that a secondary anemia may change to the primary pernicious type. The theory that progressive pernicious anemia is always cryptogenic was negatived when cases with the typical blood and marrow changes were demonstrated with bothriocephalus, syphilis, malaria, gastrointestinal mucosa atrophy and small pyloric cancer as precursors.

In ordinary secondary anemia the blood picture differs essentially from that of the primary type, but when in the secondary type the process reaches a point at which not only hemolysis, but deficient hematogenesis is present, the blood findings may approximate closely those of the pernicious disease. In such cases as these, in which a pathologic process sufficient to cause the anemia is problematic, but not actually demonstrated, it may take the autopsy to decide to which class the anemia actually belongs. Of course if the case is seen early enough the probability is that the change from the secondary to the pernicious type could be traced definitely in the blood findings. Such a change has been traced by Lazarus. Ordinarily, however, cases like those under consideration come under observation too late for such help in the diagnosis.

In hepatic cirrhosis there is usually a more or less marked anemia of the ordinary secondary type; Ewing states, however, that cases with hemorrhage may terminate in the pernicious type.

My research has not been exhaustive, but so far no reference has been found to cases of hepatic cirrhosis without hemorrhage so terminating. I shall cite two cases, one pretty conclusive, the other but suggestive, perhaps from the lack of opportunity for further study of the blood.

A man of 55, in Ebstein's enviable stage of obesity—he was of medium height and weighed 211 pounds—with evident anemia, yellow-tinted skin, clear sclerae and an alcoholic history, came under my care over a year ago. The diagnosis was reduced to hepatic cirrhosis or else primary pernicious anemia. The abdominal fat precluded the definite determination of the size of the liver and the other signs and symptoms of cirrhosis were lacking. Though the postmortem examination showed 2,500 c.c. of fluid in the abdomen, it appeared to be a terminal process, for it was only late that suspicions were aroused on this point. In any case, since the pelvis may hold over a liter before the fluid begins to accumulate in the abdomen proper, and since Oestreich and de la Camp state that a clearly demonstrable collection of fluid in the abdomen usually means several liters, doubts on this point in the examination of a fat man were perhaps excusable. On the one hand was the alcoholic history suggesting a possible cirrhosis, and on the other the blood and whole aspect of the patient, suggesting rather a pernicious anemia. The blood examinations are detailed in the accompanying table.

The study of the blood, though not as complete as we could wish, shows a majority of the characteristics of the blood of pernicious anemia: The average number of erythrocytes 1,260,000, leucocytes diminished, lymphocytosis except toward the end of life when with no complications the polymorphoneuclears rose, a condition noted by Ewing, color index continually above one, TABLE OF BLOOD EXAMINATIONS.

Date.	R. B. C.	W. B. C.	Hemoglobin, %.	Small lymphocytes, %.	Large lymphocytes, %.	Polynucl. neutroph, %.	Eosinophiles, %.	Myelocytes, %.	Total Normoblasts.	Megaloblasts.	Hemog. Index
Jan. 29	1,550,000	2900	33	..	..	..	..	..	29	0	1.06
Feb. 5	1,530,000	3200	35	54	4	40	1	1	32	0	1.14
Feb. 11	1,210,000	2800	28	..	..	..	..	..	..	..	1.15
Feb 16	990,000	2700	26	80	4	16	..	..	..	..	1.31
Feb. 19	1,020,000	5000	24	36	22	53	1	..	50	50	1.12

deformities in size and shape of erythrocytes, polychromatophilic reds, few myelocytes, and the megaloblasts in the last count two days before death equaling the normoblasts.

To make the picture of pernicious anemia complete, the megaloblasts should exceed the normoblasts; and had our examinations been more frequent toward the end, perhaps such a condition might have been found. This determination is often most difficult anyway. To find the ratio in the last count, February 19, Dr. Hunt studied fifty fields.

The points of interest in the autopsy were the deep red muscles, the thick layer of subcutaneous and omental fat, the 2,500 c.c. of sanguinoserous fluid in the abdomen, also 500 c.c. in the pericardium, and smaller amounts in the pleural cavities. The liver was distinctly hobnailed, weighed 1,700 gm., and showed few adhesions around the gall bladder. The heart was pale, flabby, walls of normal thickness, valves normal. The spleen was enlarged, dark, capsule normal, weight 970 gm. The kidneys and adrenals were practically normal. The appendix was adherent to the posterior walls and there were adhesions about the ascending colon. It is a great disappointment to find that the bone marrow was not examined, for the degree of hyperplasia therein means much in the diagnosis.

A suggestive case was that of a woman of sixty years, in which the possibilities were pernicious anemia, gastric cancer or hepatic cirrhosis. There were not enough clinical signs and symptoms at the time of the single examination to decide more definitely. The single blood examination obtained showed hemoglobin 50 per cent.; red blood corpuscles, 1,066,000; white blood corpuscles, 4,800. Stained specimen showed poikilocytes, macrocytes, megaloblasts, neutrophiles, eosinophiles and lymphocytes. Of course this proves nothing, as we know nothing of the relations of the megaloblasts to the other nucleated red blood cells, nor the proportion of the leucocytes. Unfortunately the patient did not return for further observation. Several months later she died, and I am informed that the postmortem revealed an advanced portal cirrhosis. The case was one of so-called latent cirrhosis. Perhaps at the time of the examination one might have felt surer of the size of the liver had the patient been examined with the fluoroscopic screen, the colon having been emptied and inflated at the time. I have had only one other case in which to try this procedure and owing to an insufficiently emptied colon we learned little as to the lower border of the liver. Of course this may not prove a useful procedure, but with a liver whose lower border is above the edge of the ribs, I had hoped that the screen examination would be helpful, as with it the rise and fall of the liver with respiration is evident. A brother of this patient recently died of a well-marked portal cirrhosis. In the man there was an alcoholic history, in the woman no known etiologic factors. They illustrate the occasional family susceptibility, but the etiologic factors were hardly the same as the patients lived in different environments.

Here, then, are two cases, the one but suggestive, the other fairly conclusive, indicating that the anemia secondary to portal cirrhosis without hemorrhage may occasionally simulate progressive pernicious anemia. Such cases are naturally of paramount interest only when the exact diagnosis is not clearly demonstrable. That such a change should occur in the blood is easily conceivable when it is remembered that both hepatic cirrhosis and progressive pernicious anemia are probably due to infections. In any case secondary and primary or pernicious anemia are but relative terms. Many of the cases formerly classed as primary have been eliminated from the cryptogenic series, the cause having been demonstrated.

Finally, the differences in the blood findings are largely those of degree. Hemolysis and hematogenesis are present in both. A limited amount of metaplasia may occur in the marrow in marked secondary anemia; occasionally it is absent in pernicious anemia. Usually, however, it is only when a marked destruction of imperfectly formed blood corpuscles begins that the true picture of the pernicious type is obtained.

1927 Chestnut Street.

Special Article

THE REINHARDT CASE CONCLUDED.

THE END OF A LONG FIGHT FOR THE PROTECTION OF THE PUBLIC AGAINST IMPOSITION.

After nearly two years of constant litigation, the Wisconsin State Board of Medical Examiners has defeated the Reinhardt brothers of Milwaukee, who for a number of years carried on business in Milwaukee under the name of the "Wisconsin Medical Institute" and "The Master Specialist." The history of the case is most interesting and a summary, taken from the report to the governor of Wisconsin, by Mr. A. C. Umbreit, attorney for the Wisconsin State Board of Medical Examiners, is given here for the information of the profession and especially of the members of boards of examiners of other states.

The Reinhardts are brothers, two of them twins. The two twin brothers claim to have studied medicine and to have received diplomas from medical colleges. The third brother, F. A. H. Reinhardt, never studied medicine, but is a blacksmith by trade and claims to be an expert electrical mechanic. The home of these Reinhardts and their relatives is now at St. Paul, Minn. As far as is known, Minnesota is their native state. These Reinhardts and their relatives have been conducting medical institutes in Milwaukee under one name or another for the past seven years and have made tens of thousands of dollars out of their fraudulent business.

Willis F. and Wallace A. Reinhardt are twin brothers. F. A. H. Reinhardt is an older brother. Mary Reinhardt is their mother. Della Hageman is their sister. William Hageman and J. M. Ruffner are their brothers-in-law, and M. C. Wolf was a former employé of theirs. In 1902 The Wisconsin Medical Institute was incorporated by Willis F. Reinhardt, Della R. Hageman and Mary Reinhardt. In 1904 The Master Specialist was incorporated by William Hageman, J. M. Ruffner and M. C. Wolf. These two alleged corporations conducted by them advertised under their corporate name and held themselves out as specialists in so-called private and secret diseases peculiar to men. The president of both corporations was L. J. Reinhardt, the wife of Wallace A. Reinhardt. The secretary of one corporation was Wallace A. Reinhardt, and of the other F. A. H. Reinhardt. The manager of the local office of both corporations was Willis F. Reinhardt. Although these two concerns were incorporated for the apparent purpose of conducting a medical institute, yet all its business, as far as business matters thereof was concerned, was conducted in the name of F. A. H. Reinhardt. Thus the lease of the premises occupied by them ran in his name, the bank deposits were made in his name, all the checks were signed in his name, and all judgment notes were made payable to him.

These same people conducted three other alleged medical institutes, one at St. Paul, known as the Heidelberg Institute; another one at Chicago, known as the Vienna Medical Institute, and the third one at Davenport, Iowa, known as the Copenhagen Institute. All these three other alleged medical institutes were conducted in the same way as the one at Milwaukee, namely, all formal business matters were conducted in the name of F. A. H. Reinhardt.

Advertising most extensively in the local and state newspapers under the names of these two corporations, and professing to be specialists in the particular diseases referred to, these Reinhardts have reaped a rich harvest by the way of returns from the fraudulent business during the past six years. Previous to coming to Milwaukee, the twin brothers Reinhardt conducted a fraudulent medical institute at Minneapolis, and when their fraud became so notorious that the grand jury began investigating their methods, an alleged sale of their institute to F. A. H. Reinhardt was made, and the twins disappeared, ostensibly going to Europe, but in fact making such trip to Europe via San Francisco, Hawaii and Australia. By reason of their fraudulent acts just referred to, the license to practice medicine of Wallace A. Reinhardt was revoked by the State Board of Medical Examiners of Minnesota July 12, 1900. Willis F. Reinhardt never had a license in Minnesota, nor has had one in Wisconsin, and, so far as is known, the only state that has given him a license to practice is Illinois, and that fact is in doubt. After their rather unpleasant experience in Minneapolis, these twin brothers came to Milwaukee and conducted a so-called medical institute in their own names and later in the names of the Leipsic Doctors and the German-American Doctors, but finally formed the corporations already described.

THEIR METHODS TO ENTICE AND FLEECE THE UNWARY.

In conducting their alleged medical institute in Milwaukee the Reinhardts generally employed physicians just out of college and anxious to get any kind of practice, or those who had made a failure of life as well as of their practice and were willing to do any kind of work for the sake of eking out a precarious existence. A brief description of the way they conducted their fraudulent business will at once show the enormity of the frauds committed by these Reinhardts and the extent of their imposition on the people of the State of Wisconsin.

By far the largest number of their customers came from places outside of Milwaukee, and the victim generally began his experience of being fleeced by these men by sending a letter of inquiry to the institute by reason of having been attracted by the flaming advertisements. In response to this letter of inquiry there was sent a decoy letter written by the stenographer employed at the institute, urging the expected victim to call because a personal examination was necessary. Herewith are given verbatim copies of actual letters received at the institute:

> WISCONSIN MEDICAL INSTITUTE.
>
> I wish to consult you in regard to my case. Will describe the best I can. Have a pain in back of head and in temples, have heart trouble, pain in small of back, and lower part of abdomen, and an itching, a fulness of bowels. Am nervous, and 73 years old. Good appetite. What is the trouble, what can you do for me, what will be the expense? Can you guarantee anything? If so, if I can stand the fees, should like to come and see you.
>
> Respectfully yours,

Another form of letter which was frequently received is herewith reproduced:

> *The Master Specialist:*
> *Milwaukee, Wis.*
>
> *Dear Sir:*—To-day as I was looking over some old books I found one called Private Medical Adviser, by the Master Specialist. As I could find no date in the book, haven't any idea whether you are in business yet or not, but decided to write and find out, as I am sick. The home Dr. calls the trouble Typhoid Malaria. Have felt it coming on several years, was down last summer with it six weeks, took down 1906, 1 Aug. down three months, have been up sometime, am unable to work, am constipated. Liver and Spleen bothers me, take a sick spell every few days. I have good reasons to believe it is not caused all together from malaria. Please send me charges for home treatment, etc.
>
> Yours truly.

In response to letters like these the decoy letter was sent, of which we herewith reproduce an exact copy:

> WISCONSIN MEDICAL INSTITUTE,
> MILWAUKEE, WIS., Jan. 8, 1907.
>
> *Mr. Blank, Spring Lake, Wis.*
>
> *Dear Sir:* Your favor received, and we have carefully read all you say. You will have to come to our offices for a careful personal examination. We will examine you carefully, free, and advise you what can be done for you in order to obtain a cure. Try to come at once and be carefully examined and, if you are satisfied, you can take the treatment and go back home cured.
>
> Yours very truly,
> WISCONSIN MEDICAL INSTITUTE.

Usually in response to such suggestion the victim was induced to call at their institute and at the door was asked to give his name and address, which was then apparently sent in to the doctor who was always busy; but the reason this suggestion was made was to give the alleged doctor time to investigate the standing and financial ability of the person whose name had just been sent in. Then the person was led into the office of the alleged doctor, who generally was Willis F. Reinhardt and who had absolutely no right to practice medicine in Wisconsin and whose claim of having graduated from any medical college whatever is most seriously disputed by the people who know him best. The person thus calling was thoroughly examined by Reinhardt as to his residence, business or vocation, income and financial ability to pay, and was finally asked what he thought was the matter with him. No matter what ailment the victim thought he had or was suffering from, and no matter whether he was suffering from no ailment whatever, the disease or alleged disease was diagnosed by this man Reinhardt as due to some private or sexual ailment.

Then one of the doctors employed by these people was called in and told that this man was suffering from varicocele, and this employé of theirs then made another diagnosis of the case and, of course, found the cause to be the same as that named by his employer. The witness was then scared into the belief that his affliction was most serious and that immediate treatment was absolutely necessary, and various other means and devices were employed to place the alleged patient in such a frame of mind that he was willing to do almost anything for the sake of being cured. If the alleged patient demanded a guarantee, these men did not stop at that, but would give a written guarantee to cure the most incurable disease known to the medical profession. Then the victim was told that the treatment would be all the way from $50 to $500, depending on what the Reinhardts had concluded they could extort from the victim now entirely within their power. If the alleged patient had any money with him it was taken away from him at once. If he did not have sufficient funds in his possession, all that could be secured from him was taken and he was induced to sign a judgment note for the balance. Then began the "stringing" of this alleged patient, and after they had sent him such medicine as they thought sufficient to keep him on their list of patients, and the patient became dissatisfied because of having received no benefit from their treatment, he was induced to come in again for another examination, and if he was foolish and credulous enough to be imposed on he was told that another disease had been discovered and that treatment for that disease was necessary and that an additional sum of money would have to be paid to cure this ailment. In this way they secured large sums of money from a great number of persons and induced some of them to take treatment from them for one alleged disease or another for years, and when finally the victim could not be fleeced any more he was told that he was cured, even though he was not, and if he came again the door was closed on him and he was told to remain away. If the victim insisted on a settlement and a return of the money for which no services had been rendered and was shrewd enough to get an attorney to enforce his claim, in some few cases where suits were threatened and exposure in open court stared them in the face, settlements were made and part of the money extorted was returned.

The judgment note hereinbefore referred to was of the most steel-bound and rock-ribbed kind. Its wording is reproduced below. Many thousands of victims signed these notes:

> I hereby agree to begin a course of treatment for my case and promise to follow directions carefully and continue treatment faithfully for the full course prescribed, and will report at the office as often as the Doctor may deem necessary.
>
> ....19—.
>
> For value received. I promise to pay .... or order ..... Dollars .... from date, to be paid as follows:
>
> | | | |
> |---|---|---|
> | $ ....190 | $.........190 | $ ....190 |
> | $ ....190 | $.........190 | $.........190 |
> | $.........190 | $.........190 | $.........190 |
>
> In case this note or any installment is not paid at maturity, I hereby agree to pay ten dollars as liquidated damages to cover charge of collecting same. To secure the payment of said amount I hereby authorize irrevocably any attorney of any court of record to appear for me in such court, in term time or vacation, or any time hereafter, and confess a judgment without process in favor of the holders of this note for such amount as may appear unpaid thereon, together with costs and twenty-five dollars attorney's fees, and to waive and release all errors which may intervene in such proceedings, and consent to immediate execution on such judgment, hereby ratifying and confirming all that my said attorney may do by virtue thereof, and if default be made in any of the foregoing installments it shall be lawful for the holder of this note to declare the whole sum above specified to be due and payable.
>
> Signed.. ....
>
> Address.....................

If the victim was not satisfied with mere verbal promises of cures the Reinhardts did not hesitate to give a written guarantee. Herewith is reproduced such guarantee actually written by one of the Reinhardts.

> It is hereby agreed between the Wisconsin Medical Institute and John Blank: The Wisconsin Medical Institute guarantees to cure permanently for life Mr. John Blank of varicocele, sexual weakness, lost manhood, and ailments resulting from self-abuse for $150.00. The Wisconsin Medical Institute agrees to furnish all medicines until a complete cure is effected, and Mr. John Blank agrees to use same faithfully according to directions.
>
> Wisconsin Medical Institute.

This is but an outline of the methods employed generally by these people who reaped large returns through frauds, extortions and false pretenses.

CONCRETE EXAMPLES OF FRAUD SUCCESSFULLY PRACTICED.

In January, 1906, a coachman called at their offices and complained of having rheumatism. Willis F. Reinhardt examined him and told him that his ailment was hydrocele, and, although the alleged patient told him that he never had that disease yet he was induced to believe that he had and was also induced on the same date to pay Reinhardt $310.00 under the guarantee of a cure. He was induced to continue this treatment for five months, calling at the office of the institute frequently, but received no benefit whatever. When this man insisted on being cured or that his money be returned, the door was shut in his face and he was told to remain away from the office. He still had his rheumatic pains, and after he had been shut out from the institute he went to a drug store and bought some staple remedy, paying $1.00 therefor, and immediate relief was the result. This man went to an attorney, presented his claim, and the attorney compelled these Reinhardts to return $200.00 of this man's money.

Another man from the interior of the state was induced by the advertisements of these people to come to Milwaukee and visit their offices for the purpose of an examination. He had been suffering from heart disease and he was told by the man who conducted the alleged examination that his heart trouble was due to sexual weakness, and that his disease would be cured by them for the sum of $250.00. But he was told it was necessary also to wear an electric belt, and in addition to this $250.00 he was induced to pay $10.00 for this appliance; after taking treatments for some time and having received no benefit, he was induced again to call at their office and was then told that his disease was due to organic stricture, although he had never been subject to that disease, and was induced to pay another sum of $265.00 for treatments to cure this imaginary disease; still receiving no benefit from their treatment, he was again induced to call at their office and then was told it was necessary for him to take treatment for the spine and also to purchase a brace, for which he paid the sum of $35.00, and finally when he insisted that something be done to relieve him from this ailment he was told that it was necessary to pay them $100.00 before he could be cured; he told them he had paid them sufficient money to be cured and was then being treated for all diseases that human flesh is heir to, and these people locked the door on this man and told him that they would not let him go until he paid the sum; he then gave them all the money he had, $80.00, and discontinued any further treatment. He had given them the sum of $640.00 and in return received no benefit.

Another man from the interior of the state attracted by the flaming advertisements of these people came to the city and called at their office, and after he had been thoroughly examined as to his financial condition, his income and his business affairs he was told that his disease was varicocele and that he was in a very serious condition and immediate treatment was necessary. This man was, in fact, suffering from a slight attack of paralysis, but he was induced to believe that said paralysis was due to varicocele and was also induced to pay the sum of $150.00 for an alleged treatment of this alleged disease. After he had received treatments for some time and had received no benefit and had so informed these people, he was induced to call again at their office and was then informed that he was suffering from piles, and this fact was interfering with the effectiveness of their treatment. He was then asked to pay the further sum of $100.00 in order to be cured of this ailment. This man refusing to pay $100.00, they accepted $50.00 and he was induced to receive treatment for the piles. Of course, he received no more benefit from the second treatment than he received from the first, and after they had secured $200.00 from him he discontinued any further treatment. In fact, this man had never been suffering from varicocele and was not afflicted with piles.

Another man, living in Milwaukee, 68 years old, was attracted by the advertisements and called at the institution. He had some slight ailment, he thought, by reason of his advanced years and was examined by Willis F. Reinhardt. He was told by this man that he was suffering from syphilis, in face of the fact that he had never been afflicted with that disease, and was induced to contract for a course of treatment, executing a judgment note for $300.00. He took treatment for a year, paid the note and received no benefit. Then he was again examined by the same man and told he was suffering from varicocele and induced to part with $80.00. The second treatment conferred no benefit and thereon he was informed that he had kidney troubles and induced to pay another $40.00 for this treatment. His health in no wise being benefited, he was then told he had piles and induced to be treated for this affliction and to part with $125.00. These alleged treatments began in September, 1903, and continued until November, 1906, and his health in no wise improved. On this last date he was coaxed into being circumcised under the pretense that such operation would complete a cure. For this he paid $35.00. The operation was so unskilfully performed that he had to give up his work and such serious complications arose that he died in April, 1907.

Another resident of Milwaukee, a machinist, was relieved of $320.00 in the following manner: He was actually afflicted with a private disease and called on Willis F. Reinhardt, who examined him and fixed the terms for a cure at $150.00, which was paid. After five weeks' treatment, no benefit resulting, he was induced to purchase a mechanical appliance and use it, and pay $50.00 therefor. This made a bad matter worse. Then he was advised and induced to violate the moral law, became very sick, was treated for this ailment for six weeks and paid $70.00 for the same. After several months of treatment he was in a very bad physical condition and then told to take some pills, very expensive, imported from Germany. He was induced to purchase them for $50.00, but, of course, no benefit resulted from taking them. He stopped taking treatment, demanded the return of his money, brought suit and the matter was compromised by the return of $200.00.

These Reinhardts were also doing an extensive mail order business. Finally complaint was made against them to the U. S. postal authorities and an investigation made by a government postal inspector. He sent a letter of inquiry under an assumed name from an interior town and he received the usual decoy letter enclosing a symptom blank with the request that this blank be filled out and returned to the institution. The inspector took this blank to a physician and the two inserted answers indicating a condition of perfect health on the part of the supposed patient. Nevertheless the inspector received a long letter informing him that he was suffering from sexual weakness, with threatening dire complication, and advising immediate treatment, which the institution was willing to furnish him for $30.00. Later the inspector had an interview with Willis F. Reinhardt, in which the latter was asked about these letters and blanks and obscene books, and why in response to the symptom blank indicating perfect health they had urged treatment for the supposed patient, and Reinhardt answered that any one who wrote them was supposed to need treatment, no matter what the answers on the symptom blank were. When asked why persons writing for electric belts which were advertised as being distributed free were sent medicines with the belts C. O. D. Reinhardt answered that others were doing the same thing and they had not stopped to consider whether it was right or wrong. He also admitted that they had published and distributed the obscene medical adviser and sold certain mechanical appliances. Of course, he promised they would not do these things in the future. The interview took place in April, 1906, and the letters were written in the fall of 1905

The concrete examples here given are very brief extracts of the testimony given by a few of the witnesses called by the state in the criminal action against F. A. H. Reinhardt on the charge of conspiracy to defraud. In addition to these herein referred to, two physicians, one formerly employed by them and the other in their employment at the time of the trial, were called and testified, though exceedingly unwilling, to the colossal frauds committed by these people, the fake *x*-ray treatments, the instructions to get all the money possible out of dupes who call, and gave the names of many persons who, from their own knowledge, were defrauded out of large sums of money under the pretense of medical treatment for ailments they did not have.

This colossal fraud was exceedingly *profitable for the Reinhardts*

The money gathered in from the dupes was simply enormous. The year 1906 was an "exceedingly lean" year, according to their own statement. Yet on Jan. 4, 1907, a report was prepared showing that during 1906 the institute had treated 485 "patients" who were still on the books as customers, from whom had been collected, in hard cash, $28,243.90. In addition to this money already paid in, these dupes had delivered judgment notes for amounts still due aggregating $6,113 50. Hence the total business for the year was $34,357.40.

The profits for one month were as follows:

Judgment notes secured during Dec., 1906, last month	$2,778 00
Cash deposits, net, after all expenses, same time	1,140 50
Total..........................	$3,918 50

THE POLITICAL ACTIVITY OF THE REINHARDTS.

These Reinhardts did not confine their activity to exploiting the practice of medicine in Wisconsin, but, *in order* to protect their fradulent institution, took a very active interest and part in the political affairs of the state.

In the session of 1905 of the Wisconsin legislature a bill was introduced to give the State Board of Medical Examiners the power *to revoke* licenses of doctors for unprofessional conduct, including indecent advertising. Violent opposition developed at once, led by a so called Wisconsin Newspaper Association. Attorneys, hired apparently by this association, appeared to argue against the bill. But the sentiment was so strong that it could have passed as drawn if it had been pressed. As first drawn the power of revocation was in the *medical board*, the same as in most other states having medical laws, with the exception of Rhode Island. The move was then made to give the power of revocation to the courts instead of to the board, and this won out and the law was passed as amended, thus making the overtaking of the quacks slow and somewhat difficult. It now appears that this so called Wisconsin Newspaper Association was a creation of the fertile and mischievous brain of A. J. Wilson, legislative and advertising agent of the Wisconsin Medical Institute. The medical institute financed the whole affair and paid the attorneys that did the lobbying against the *medical* bill

> CHICAGO, Jan 26, 1906
>
> *Dr W. F Reinhardt, Milwaukee*
>
> *Dear Will:* You will see from the *enclosed* that the Heidelberg Medical Institute is going to take care of the paper printed in Speaker Lenroot's town which backed him
>
> Had we not better send some copy to the two Janesville papers and to Assemblyman LeRoy's paper right away before the meeting of the State Press Association, which meets on Wednesday, the 31st·
>
> If you think well of it, I would like to have you send me some copy tomorrow without fail, so that I will get it Monday morning and send it to them Monday, so they will have it Tuesday and come down to the state convention with it fresh in their minds that we have made good and are giving them business
>
> I think this might help some to shape up the action of that body. I could make small contracts that would not amount *to much* in the way of money
>
> A. J. WILSON.

The Reinhardts took a deep interest in politics in Wisconsin. They took an active part in the effort to defeat District Attorney McGovern for re-election. An idea of how far their tentacles reached may be had from the fact that we have seen a letter written by them to Aylward, while the democratic candidate for governor, in which they say that, although he cannot, of course, be elected, his running will tend to make him leader of the democratic minority in the present legislature where he can do good work in blocking medical legislation. The following letters are sufficiently tell-tale to need no comment:

> CHICAGO, Sept. 6, 1906
>
> *Wisconsin Medical Institute, Milwaukee, Wis.*
>
> *Dear Will:* I have yours of yesterday. I am delighted to hear that McGovern was defeated for district attorney I have *not been able to learn* this from the papers Now, this should lend courage and energy to our efforts to get Flint a license, and, if we can get that, at once force through a license for yourself. While McGovern and their friends are discouraged is the time for us to push the thing along.
>
> A. J. WILSON.
> Sept. 6, 1906

> *M. C Douglass, Managing Editor, Sentinel, Milwaukee, Wis.*
>
> *Dear Sir:* My hearty congratulations on the glorious victory of Tuesday (primary election). Kindly express *my* feelings to Foley as well It was a glorious victory, and certainly the *Sentinel* did its full share. Now I trust we shall see decency, justice and peace obtain in Milwaukee and throughout the state.
>
> A. J. WILSON.
> Sept. 6, 1906.

> *M. C Hoyt, Editor, Milwaukee Daily News.*
>
> *Dear Sir·* Accept my heartiest congratulations on the results of the primary election. I have just read your stinging editorial in Wednesday's *News* on LaFollette, and your no less vigorous editorial on McGovern *in the* same issue God rest their political souls, and may they continue to be dead for a long, long time. I am anxious *to hear* whether Assemblyman Dr Powell is also among the slain I hope today's Milwaukee papers will show the details all over the state, and I shall keep my eye *on them, and especially* on the *News*.
>
> A. J. WILSON

Of course, they had the greatest interest in the composition of the legislature, and to show how vigilant they were as far as their own particular interests are concerned a portion of a letter by Wilson to the Reinhardts, dated Aug. 24, 1906, is herewith given

> Now I want to dwell a little on how you could proceed to get pledges from candidates for the *state legislatures* of the various states where we are interested
>
> In Minnesota the *Dispatch* could send a circular letter to every editor in the state In Wisconsin the Milwaukee papers might unite in a joint letter, or one or more of them might unite together or act through their *Daily* Newspaper Association. In Illinois, I think, it might be managed out of Chicago through the Chicago papers and in Iowa you would have to have it done through one or more of the Des Moines papers.
>
> Each of these newspaper centers could appeal to each editor in the state to call for a signed pledge if possible *and in any event a* verbal pledge right now, or *at any* rate *during* September to the following effect: '
>
> 'If elected to the legislature, I pledge *myself* to oppose and work against and vote against any laws intended to abridge the freedom of the *press in either* editorial or advertising column
>
> ("Signed) JOHN JONES,
> *"Candidate."*
>
> The signing of this pledge all over the states by candidates now when they need *the editors'* help would put the editors in position to demand and command the services of these legislators in opposing any effort to *pass* the Michigan law in the other states.

A further insight into this activity as to the legislature in Wisconsin is obtained from the following quotation taken from a letter by Wilson to Dr. Flint and dated Oct. 2, 1906·

> So far as the legislative situation is *concerned*, referring more especially to candidates for the legislature to be elected next *month, I* found that our friends, the newspapers, had pretty thoroughly *reorganized* the state and have left out, by retiring them in the primary canvass *so that* they are no longer candidates for the legis

> lature, nearly all of our known enemies in the last legislature; in the assembly or lower house, like Dr. Dinsdale, Dr. Powell, and one or two others; and so far as Speaker Lenroot is concerned, who is decidedly unfriendly to us, he bowled himself out by running for the gubernatorial nomination and getting left.
>
> It is more than likely that the speaker of the next house will be one of the men who was our champion on the floor of the assembly. Your experience in politics has long ago informed you how very difficult it is for proposed legislation to get by a speaker unfriendly to it.
>
> I should add that this speaker, whom we hope to secure, is known to be in sympathy with the newspaper side of our controversy. I met him again and again when at Madison on the basis of friendly confidence and good-will.
>
> So much for the general political situation.

Determined efforts were also made by them not only to interfere with the action of the Wisconsin Board of Medical Examiners, but also to dictate its composition. This was due to the fact that the board had refused to license a Dr. Flint from Chicago. This Dr. Flint is a rupture specialist and a man who conducts the medical institute of the Reinhardts in Chicago. Every effort was made to secure a license for this man, and in order to influence certain members of the board a judge of one of the circuit courts of Wisconsin, whose brother is a member of the board, was attempted to be enlisted in this campaign in favor of Dr. Flint. Of course, this effort utterly failed, but merely shows how extensively these Reinhardts interested themselves in all public affairs which could in any way affect their business.

THE PROCEEDINGS SO FAR.

When the facts with reference to this alleged medical institute, a brief outline of which has been given, were discovered after a long and arduous investigation, they were laid before the attorney general of the state, and, after a careful investigation of the law on the subject, this officer began an action in the circuit court, restraining the corporation known as The Master Specialist and the officers, stockholders and managers of such corporation from continuing their unlawful business. This action was brought under the provisions of Section 3236 of the statutes, which provides that the attorney general may bring an action restraining a corporation from assuming or exercising any franchise, liberty or privilege or transacting any business not authorized by its charter, and restraining any individual from exercising any franchise, liberty or privilege not granted a corporation by any law of the state. A temporary restraining order was secured on the complaint forbidding the corporation in question and its officers and agents from continuing its business in any way. This order was signed by the court Dec. 28, 1906, but it appears that the Reinhardts had been kept well advised of every move made by the authorities to restrain and prevent their unlawful business. After all of the relatives of the Reinhardts, who resided in Milwaukee, had been induced to leave the state, and all of the persons who it was supposed by them might furnish evidence against them had likewise been removed from the state, then F. A. H. Reinhardt appeared in Milwaukee and process was served on him in the civil action just mentioned, and he was also arrested for a conspiracy with his brothers and one A. J. Wilson to defraud the public generally.

It is needless to state that the twin brothers had left the state immediately on learning of the injunction issued by the circuit court, and have remained outside of the jurisdiction of our courts ever since. Shrewd and skilful attorneys were retained to defend the Reinhardt who had submitted to the processes of our court, and a determined fight was made in the circuit court to vacate the temporary restraining order, and after a large number of hearings and considerable argument the temporary restraining order was modified in some particulars, but the substance thereof was continued in force.

Notwithstanding the comprehensiveness and positiveness of the original temporary restraining order, F. A. H. Reinhardt attempted to carry on and continue the business of the institute in a roundabout way. For this conduct he was brought before the court for contempt, and after an extensive hearing and the taking of oral testimony the court found him guilty of such contempt and fined him $150.00 and costs. After an amended complaint had been prepared and served on him, on which another temporary restraining order was issued, and before the matter thus raised could be heard before the court, the alleged stockholders of the corporation known as The Master Specialist apparently passed a resolution dissolving said corporation and filed such dissolution with the secretary of state and recorded it with the register of deeds for Milwaukee County. The corporation known as the Wisconsin Medical Institute had gone through the same process of apparent dissolution before the action herein referred to could be begun by the service of the papers on the defendants. It seems that there was another corporation in existence known as the State Medical Institute, but this corporation had never been thoroughly and fully organized, and a resolution of dissolution of this corporation was also filed and recorded.

By these moves it was expected that all the actions against these corporations by the state would have to be dropped, and the Reinhardts, in some way, might again take up their alleged medical business and continue conducting a so-called medical institute. The court, after examining the law on the subject, decided that the civil actions would have to be dismissed, and they were dismissed with costs against the defendants. The state, however, gained this advantage in these injunctional proceedings, namely, that it made it impossible for the Reinhardts to conduct an alleged medical institute under the guise of a corporation with its officers and directors non-resident, and thus leave no responsible party within the jurisdiction of the state who could be held liable for any unlawful acts done by them in connection with their institute. They were now compelled to conduct an alleged medical institute under the management of some person whose name was known or could be easily learned and who could, in case of unlawful acts on their part, be brought before the courts and held responsible therefor.

Criminal proceedings were also instituted as the result of this investigation. The investigation herein referred to was instituted by the Wisconsin Board of Medical Examiners and conducted by its attorney. After a consultation with the district attorney of Milwaukee County a complaint for conspiracy to defraud was issued against Willis F., Wallace A. and F. A. H. Reinhardt and A. J. Wilson. It appears that the officer employed by the Wisconsin Board of Medical Examiners to investigate and secure evidence against the Reinhardts was also in their employ and consequently they were kept thoroughly posted as to every move made by the authorities against them. Consequently when the summons was issued in the civil action and the warrant in the criminal action the Reinhardts had all disappeared and gone beyond the jurisdiction of the State of Wisconsin. Jan. 19, 1907, F. A. H. Reinhardt came to Milwaukee and the civil process was then served on him and he was arrested on the criminal warrant. After a good many delays the case against him was finally called for trial in the district court of Milwaukee, and after a two weeks' trial and twenty-four witnesses had testified he was found guilty of the charge brought against him and fined $500.00 and the costs. He immediately appealed from this conviction to the municipal court of Milwaukee County, where the case is now pending.

Determined efforts were made to secure the extradition of the two twin brothers, Willis F. and Wallace A. Reinhardt, who were at St. Paul, Minn., and to bring them into Wisconsin for trial. An extradition warrant was issued by the governor of Wisconsin to the governor of Minnesota, and after a long contest before the latter he ordered the surrender of the two Reinhardts. These two then instituted habeas corpus proceedings before a court in St. Paul, and, although the office of the attorney general of Minnesota did all that could be done there to defeat these habeas corpus proceedings, they were nevertheless discharged, and hence could not be brought to Wisconsin.

At the time these proceedings were pending in St. Paul a request was made to have the attorney for the board come to St. Paul and assist in securing the return of these two Reinhardts. But because the board had absolutely no funds at its disposal to pay for the necessary expenses to send its attorney to St. Paul the request could not be complied with.

After the circuit court had dismissed the civil proceedings the Reinhardts immediately opened their alleged medical institute again at the old place under the name of "The Wisconsin Medical Institute (not inc.)." This, of course, is a gross and very apparent deception and circumvention of the law, and under our law as it now stands the state is helpless to prevent such deception and circumvention. F. A. H. Reinhardt inserted an advertisement signed by "The Wisconsin Medical Institute (not inc.)." For this advertisement he was arrested on the charge of holding himself out as a physician without having a license to do so. On this charge he was tried in the district court of Milwaukee and convicted and fined $50.00 and costs. He had likewise appealed from this conviction to the municipal court.

Since the date of this last conviction advertisements for a time appeared in several of the daily papers of Milwaukee under the name of the Wisconsin Medical Institute (not inc.). In these advertisements it was stated that the institution was under the management of Dr. Emmons, one of their employés, a broken-down physician, much inclined to intoxication. The advertisements were exceedingly mild when compared with those that formerly appeared, but apparently remained within the letter of our present law as to obscene medical advertising.

The appeal of Frank A. H. Reinhardt from the conviction in the district court came on for trial in the municipal court during February, 1908, before a jury. After a long and bitter trial lasting ten days, the jury promptly convicted him and he was again fined $500.00 and the costs of the prosecution. This fine and costs amounted to $2,271.95. From this judgment he appealed to the supreme court of the state. At about this time a second criminal action for gross fraud and common law cheat was instituted against these Reinhardts and another attempt was made to extradite the twin brothers from St. Paul. On account of the continued absence from the state of Governor Johnson, this application was delayed several months.

The criminal proceedings that issued in the conviction of Frank A. H. Reinhardt were based on the provisions of Section 4568, which provides a punishment for a common law conspiracy. This punishment, however, is merely a fine of $500.00 or imprisonment in the county jail for one year. These people do not care for fines as long as they are not imprisoned and their business is not exterminated.

The second prosecution on which it was attempted to extradite the twin brothers from St. Paul a second time is based on the provisions of Section 4430. The punishment provided by this section is very severe, comparatively, the maximum being a four years' imprisonment in the state prison.

Before the civil and criminal proceedings were instituted a considerable amount of documentary and other evidence came into the hands of the attorneys for the state through the police department and an old employé of the Reinhardts. In order to destroy the effect of this evidence, or, perchance, compel its return, in July, 1907, an action was brought by Wallace A. Reinhardt as plaintiff, against District Attorney McGovern, his assistant, Mr. Backus, one Jacob Schultz, Drs. P. H and J. J. McGovern and the attorney for the board, for the conversion of this evidence claimed by them as property and judgment was demanded for $6,879.15, the alleged value of this property. In the fall of 1907 this action was dismissed by the plaintiff, and immediately thereafter another action for the same cause and for the same amount was brought against Mr. Umbreit alone in the U. S. Court for the Eastern District of Wisconsin. Practically all of this evidence was in the manual possession of the attorney for the board, and the most determined efforts were made to force a successful issue for the plaintiff in this case and thus intimidate the agents for the state and possibly prevent any further proceedings against the Reinhardts.

In addition to the witnesses called at the first trial of Frank A. H. Reinhardt, a number of new witnesses were found who testified at the second trial. Since said second trial a number of other witnesses have volunteered to tell their tales of woe.

These people have unlimited means at their disposal. During the years when they were running at full speed, and their advertisements were accepted and published, no matter how obscene, and their manner of business had not been interfered with by the government authorities, these Reinhardts received at least $100,000 yearly in net returns from their medical institute business. It was for this reason that such a determined fight was made by them to prevent a conviction for any serious offense and an extermination of their business.

An attempt has been herein made merely to give the briefest abstract of the frauds committed by these Reinhardts, of the injury done to the people of this state and of the methods used by them to fleece our people and fill their coffers. The question presented to the authorities was whether such flagrant methods could or could not be reached by our laws and whether these people could openly defy not only the whole of the honorable profession of the practice of medicine in Wisconsin, but also the laws of the state and the authorities who are charged with the duty of enforcing these laws simply because they have unlimited means, while the means at the disposal of the authorities especially charged with the execution of the laws are exhausted.

The final settlement of the case was consummated on July 13, 1908, when Mr. Killilea, attorney for the Reinhardts, signed the stipulation and agreement formulated by the attorney for the state board and district attorney for Milwaukee County. This stipulation provides:

1. That Frank A. H. Reinhardt pay the judgment entered in the municipal court of Milwaukee County to the amount of $500 and costs, and that the writ of error sued out by him and pending in the Supreme Court of the state of Wisconsin be dismissed.
2. That the district attorney for Milwaukee County dismiss the criminal action pending in the District Court of the county against A. J. Wilson, Willis F. and Wallace A. Reinhardt.
3. That the request for the extradition of Wallace A. and Willis F. Reinhardt be recalled.
4. That the complaint against Frank A. H. Reinhardt on charge of unlawfully practicing medicine be dismissed.
5. That the civil action against A. C. Umbreit, attorney for the state board, be dismissed.
6. That Wallace A. Reinhardt, Willis F. and Frank A. H. Reinhardt do not engage in the state of Wisconsin in any medical practice or medical business whatever, directly or indirectly, either individually or jointly under the names or designation of any medical institute or corporation, except that Wallace A. is not prevented from practicing individually in Wisconsin under his existing license.

The termination of this interesting and hard fought case is satisfactory so far as the Wisconsin State Board of Medical Examiners is concerned in that this board has done its duty in protecting the people of Wisconsin against rank imposition and quackery. There is nothing, however, to prevent this delectable family group from going into other states in which the laws, perhaps, are less rigid or the board is less energetic and again engaging in their contemptible work. The testimony in the case shows that persons attracted by the deceptive and misleading advertisements of these men, who placed themselves in their hands in the hope of regaining their health, were deceived, lied to and fleeced of all the money which could be obtained from them and were finally cast aside when wrung dry. Such a history and such possibilities of deceptions are a disgrace to the civilization and the legal system of any state. The green-goodsman and the confidence man, if detected in a single fraudulent transaction, are sent to the penitentiary. The thief who takes a few dollars worth of property is sent to the jail or the workhouse, but the fraud and the faker who, masquerading under the name of "doctor," not only fleeces his victim of his money but often robs him of health in return, enjoys his filthy gains without hindrance and, if prosecuted by the proper authorities, is regarded by the public as the victim of persecution and in the end is able to compromise on the sole condition that he leave the state and agree not to defraud the people of that state any longer. An exactly similar arrangement would be one in which a crowd of safe-blowers, after publicly carrying on their depredations for years, would finally agree with the state authorities, if all prosecution was abandoned and if they were allowed to enjoy unmolested the profits of their thievings, to steal no more from the people of that state.

The Wisconsin Board of Medical Examiners is to be commended for the persistency with which it has followed up this case. It is hoped that all the state boards will take cognizance of the details so that a repetition of the career of the Reinhardts in any other state may be impossible.

Point in Use of the Tallquist Scale for Hemoglobin Estimations.—Walter H. Buhlig, Chicago (*Quar. Bull. Northwestern Univ. Med. Sch.*, September), presents some comparisons of the readings of different sized drops of blood on the Tallquist scale with the results from the same patient on the Dare instrument. Taking a drop of blood of the size of the perforation in the color scale, the readings were practically always low, taking the Dare as a standard. When a spot of twice that size was read, the results obtained agreed closely with those from the Dare.

Clinical Notes

THE SPIRAL OSTEOTOME DRIVEN BY A SURGICAL ENGINE IN CRANIOTOMY.*

M. H. CRYER, M.D., D.D.S.
PHILADELPHIA.

Various surgical engines have been devised during the last thirty years for bone surgery, usually made after the form of one of the dental engines. The two principal modifications are known as the cable-shaft engine and the cord engine. The cable-shaft engine is not suitable for bone surgery whether it be for light work as in the nose or heavy work as in craniotomy. The rigidity of this engine will not allow the cutting parts to be carried in the direction desired. The vibration caused by the cable destroys the delicate touch in the hand; then there is what is known as "back lash."

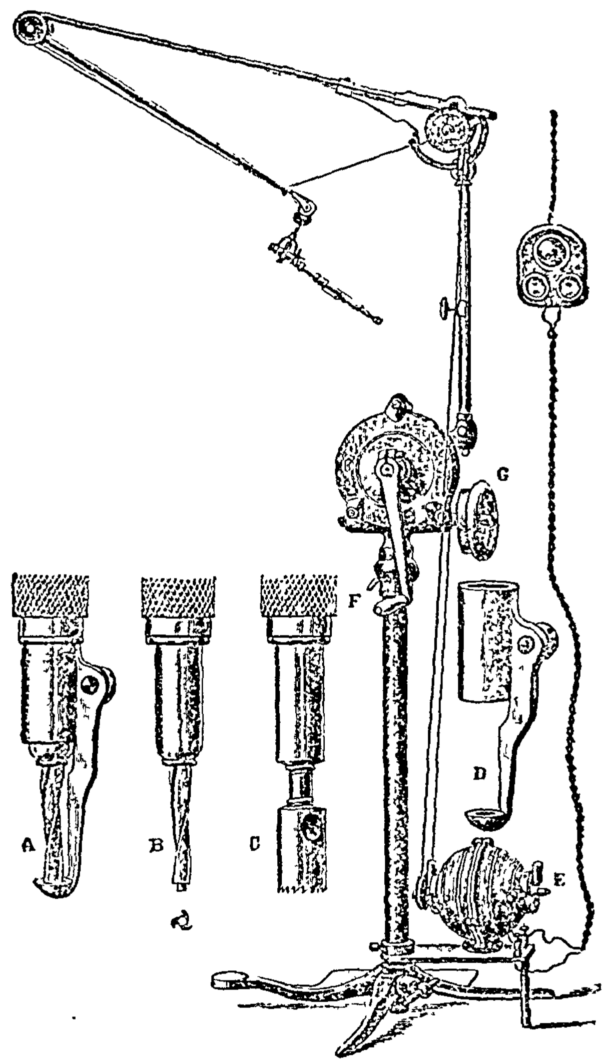

Fig. 1.—Surgical engine for bone operations and spiral osteotome used in craniotomy A, spiral osteotome with guard. D; B, spiral osteotome without guard, and showing sectional view of cutting edges; C, trephine; E, electric motor; F, crank for hand propulsion; G, driving wheel for hand propulsion.

The arm of the cord engine (Fig. 1) is fashioned very much like the human arm and wrist. It has the shoulder, the arm, the elbow, the forearm and wrist, at which point the hand-piece is attached, which can be easily detached for quick change of instruments and sterilization. There is no vibration or back lash, and the cutting instruments can be carried into any position without moving the engine or the patient.

Of the various instruments devised for opening the brain case there are:

First, a circular saw running in line to the shaft of the handle. This is of very little use.

Second, a plain saw running at right angle with the shaft of the handle. A washer fastened to its side will prevent the saw from cutting deeper than it is set for. These washers can be used of different diameters, so that various depths can be cut.

Third, another circular saw with an adjustable guard regulated by screws (Fig. 2). By carrying the guard a little out of the perpendicular position the depth of the cutting instrument can be increased. There are also two guards that are arranged to go under the saws or between the bone and saw and the dura mater. These appliances have not been found satisfactory to me, as only comparatively straight lines can be made, and more than one initial opening is required.

In October, 1893, the third appliance (Fig. 2) was first used in an operation for the removal of the Gasserian ganglion by Dr. W. W. Keen.[1] The outer table and the diploe were cut by me with the saw, the inner table was broken with hammer and chisel by Dr. Keen, and in so doing the chisel was forced too deep at one point, cutting a branch of the middle meningeal artery. This accident made me anxious to devise an instrument that would incur no danger of wounding the membranes or the brain, and that would cut, without danger, an opening of any shape or size in skulls of varying thickness. It was first decided that the instrument must be guarded from within the brain case, and not from without, on account of the varying thickness of each skull. After a series of experiments on the cadaver the instrument here described was devised and is known as the spiral osteotome (Fig. 1, A). It has for some fifteen years completely filled the requirements of those who have used it intelligently. It is the same instrument spoken of and illustrated by Dr. Frazier in his paper, "Lantern Slide Demonstration on Cranial Technic." at the joint meeting of the Section on Laryngology and Otology with that on Surgery and Anatomy of the American Medical Association, session of 1908.

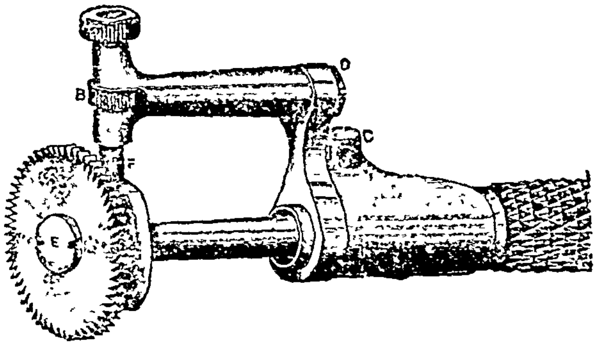

Fig. 2.—Circular saw with adjustable guard, F, regulated by screws, B.

DESCRIPTION OF THE INSTRUMENT.

The cutting portion of the instrument (Fig. 1. B) is one-half an inch in length and one-eighth of an inch in diameter and tapers slightly from base to point. The diameter can be made smaller if the surgeon desires. A few claim it makes a little wider kerf than is desirable, though those who have used it the most do not mind this feature. It is divided into three spiral cutting blades each having a turn of 120 degrees through the half inch from the base to the point of the cutting end. The arrangement of its three blades gives it the appearance of a twist drill.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Trans. Philadelphia Co. Med. Soc., 1894.

The point of the osteotome when in use is guarded by a button-like attachment, connected with the nose of the handpiece of the surgical engine by means of a shank and collar (Fig. 1. D). The free end of the osteotome is doweled into a seat in the guard in which it revolves, which steadies the whole arrangement when in use. It also gives an added rigidity to the osteotome shank, and holds the cutting instrument and guard in permanent relationship to each other. The principle involved in the instrument described is simply that of a saw arranged to cut in a line with the axis of the shaft of the osteotome, and not at right angles to it, as in the circular saw. Such an arrangement allows cutting in any direction and on curved lines. This feature is especially valuable in resections of the brain-case, inasmuch as fenestra of any desired shape or size may be speedily made.

MODE OF OPERATING.

The mode of opening the brain-case by means of the spiral osteotome is as follows: After division of the soft tissues by the scalpel, a small opening is first made with a trephine mounted in the engine hand-piece (Fig. 1. C). This trephine has a diameter of five-sixteenths of an inch, and is passed completely through both tables of the skull and the button of bone removed. There is no danger of injuring the dura with the trephine if it be carefully used by one who has had a little training with the instrument on the cadaver. Various other means are employed to make the initial opening. The chisel or gouge has been used. There is also a small trephine similar to the one described, except that it has a flaring rim containing cutting blades. When the cutting edge of this trephine passes through the skull the force is thrown on the side-cutting blades, thus choking the instrument if the band of the engine is not too tight. Other penetrating burs have been designed with the object of stopping when the dura has been reached.

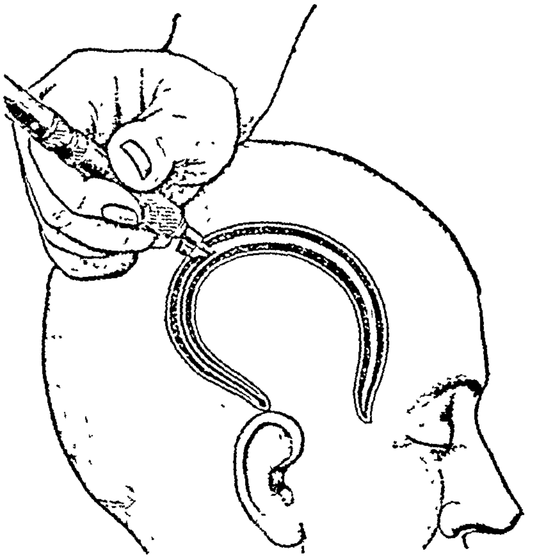
Fig. 3.—Method of using spiral osteotome in opening brain-case. The guard being in close contact with the internal surface of the bone, prevents injury to the meninges.

The initial opening thus made affords a means of entrance for the osteotome. Before inserting it, however, a small right-angled spatula should be passed into the opening and the dura loosened, thus allowing the guard to pass in between the bone and membrane. The section is then made by the spiral osteotome along the lines previously determined by running the engine at high speed and forcing the bit forward in the direction desired (Fig. 3). The button-like guard at the point of the osteotome absolutely prevents injury to the dura, which is pressed or dissected away by it from its attachment in the lines of the cut as the instrument progresses.

ABSTRACT OF DISCUSSION.

Dr. J. F. Barnhill, Indianapolis: For some time I have felt that there ought to be some kind of instrument with which we could do certain bone operations better and easier than heretofore. There are some mastoid cases, those chronic ones in which the mastoid cortex is eburnated and in which the mastoid antrum is small and deeply situated, that require much time, patience and skill in removing the bone by the method of chisels and rongeur. The concussion to the patient's head as the result of the necessary blows on the chisel may also add to the danger incident to operating by these means. For these reasons an instrument which will penetrate the bone more rapidly, as safely, and without concussion, is desirable. The burrs and spiral osteotome which Dr. Cryer has just exhibited, while intended for operations in osteoplastic surgery of the thinner portions of the skull, can also, in my opinion, be used successfully in the class of mastoid surgery to which I have just referred. The spiral osteotome which I hold in my hand can be used very effectively in removing the bridge of bone which overlies the aditus ad antrum. We all know how difficult this task often is when dependent on the chisel or forceps. With Dr. Cryer's instrument the bridge should be removed easily, quickly, and with safety to the facial nerve. After the mastoid antrum has been entered by previous steps of the operation, this osteotome may be inserted into the aditus from behind, and the whole bridge could be removed in a few seconds. I exhibited a somewhat similar instrument at the middle section of the American Laryngological, Otological and Rhinological Society in 1906, and have since worked toward its perfection, but I think Dr. Cryer's a better one for the purpose I have mentioned. I formerly opposed the use of burrs and drills propelled by engines when employed in mastoid surgery, but as I acquire more confidence in the operative work I feel a greater safety in their employment.

Dr. J. Holinger, Chicago: The instrument demonstrated here is even clumsier than the so-called Stacke-Schützer, which we discarded long ago because it was too clumsy in the aditus ad antrum. This instrument will invariably luxate the short process of the incus and even the stapes. If you intend to do the radical operation and remove the lateral wall of the aditus ad antrum, together with the ossicles of the middle ear, then it is all right; but if you want to preserve the ossicles in the interest of the hearing, then the guard is too clumsy and so is this burr, because there is not space enough. The only instrument for probing the way is a fine hair probe bent at a right angle. With a chisel the lateral wall of the aditus is removed.

Dr. Joseph C. Beck, Chicago: I have not seen the instrument except as Dr. Cryer demonstrated it, but to my mind it is one of the finest things for the operation I described. So far as the radical mastoid operation is concerned, I do not think anybody, not even Dr. Barnhill, would be willing to use this instrument in the middle ear when he expected to permit the ossicles to remain. Certainly, it would not be a safe thing.

Dr. M. H. Cryer, Philadelphia: The spiral osteotome as mounted with a guard was not devised for working in the middle ear; for that purpose the guard and cutting instrument should be removed and a spiral osteotome without a pinion end should be inserted in the hand-piece. These instruments are of various sizes, and with them very delicate bone structures can be cut and removed, in my opinion, better than with a chisel, especially if the bone be hard. The spiral osteotome can be used or driven by other motive power than the surgical engine. For light work, an ordinary cord dental engine is sufficient; it can also be used with a cable and shaft engine run by an electric motor. It has been used in that way both for light bone surgery and for craniotomy. In many ways the cord engine is preferable to the cable and shaft engine, principally on account of the easy adaptability an. direction of carrying the instruments and having no vibration to interfere with the delicacy of touch.

INTRANASAL COLLODION DRESSINGS.[*]

K. PISCHEL, M.D.
SAN FRANCISCO.

Since I demonstrated this method[1] at the annual session of the American Medical Association, 1905, I have made a little improvement which is a small step toward the entire prevention of postoperative hemorrhages after intranasal operations.

In 1905 I reported 233 operations; in six cases I had to resort to packing. Since then I have on record ninety-three cases; but most of my records were burned in the great fire of 1906. At least thirty operations should be added, which would bring the percentage of failures down to less than 2 per cent. In five out of these six cases the hemorrhage occurred on the posterior end of the lower turbinal, which had been removed.

This is the danger point, from which we frequently see blood oozing, when all the other bleeding has been stopped; this oozing has to be stopped before any dressing is applied; I often use the electrocautery point or chromic acid on a fine cotton carrier.

After all the bleeding has been stopped I press on this posterior end—the danger point—a small piece (10 by 6 mm.) of compressed cotton (Simpson's Intranasal Tampons) and drop the collodion on it. The collodion ties down the outer layers of the cotton; if there is any oozing from the wound the inner layers of the cotton will swell and press against the wound and thus stop the bleeding.

If two compressed cotton splints glued on a piece of wood, the one covered with collodion, be immersed in a glass of water the one covered with collodion will remain small, while the other will swell up.

Since November, 1906, when I first employed this improved method—that is in my last sixty-three operations—I have had no hemorrhage.

ABSTRACT OF DISCUSSION.

DR. E. FLETCHER INGALS, Chicago: Dr. Pischel did not tell us how he made the collodion dressing, and I can not understand how he makes the collodion stick in the moist surface of the nasal cavity. I have tried it, but have never been able to make it adhere, even though I dried the surface as thoroughly as possible.

DR. W. W. CARTER, New York: I too have tried to use collodion on the mucous membrane and have gone so far as to clean off all mucus and watery secretions with ether, and have tried in every way to make the collodion stick, but have been unable to do so. I feel that my visit to Chicago would not be in vain if I could find out how it could be done. The natural secretion of the mucous membrane under the collodion causes it to peel off.

DR. K. PISCHEL, San Francisco: It is of great importance that all bleeding should be stopped before the dressing is applied; the collodion dressing should prevent postoperative hemorrhages—that is bleeding several hours after the operation—but it is not intended to stop the bleeding during the operation. The ordinary collodion of the Pharmacopeia is used, not the flexible collodion, which would not stick enough. Sometimes the fresh collodion is too thin; I then let it stand awhile in the open bottle.

In answer to the question whether the collodion will stick on mucous membrane and whether it will not peel off by reason of the natural secretion, there are cases in which two or three days after operation there is so much secretion that the collodion will become loose; these cases are exceptional. In the majority of cases the collodion will stick so firmly that on the second or third day I allow the patients to use the spray. After the first few days the swelling which is caused by the reaction disappears so that the patient can breathe through the nose, as if there were no dressing at all.

Let us assume that I have removed the lower turbinal; all the bleeding has been stopped. I examine very carefully the posterior end, as there the oozing lasts the longest and there hemorrhages are more liable to occur than anywhere else. If there is still some oozing I stop it with electrocautery point or with chromic acid. I clean the whole field carefully and wipe over the wound and surrounding tissue compound tincture of benzoin with an applicator; this gives me a dry surface. I now take, with nasal forceps, a small piece of compressed cotton about 10 by 6 mm. (Simpson's Intranasal Tampons J. & J.) and press it on the posterior end of the lower turbinal. On this I drop the collodion slowly, drop by drop, while my assistant blows hot or cold compressed air into the nostrils to quicken evaporation. The rest of the wound I cover with small pieces of gauze which I lay around the rest of the turbinal and drop the collodion on them. The collodion forms with the splint and the gauze a white membrane which fulfils two purposes; it protects the wound against infection from the air and prevents secondary hemorrhages. I instruct the patient to keep a little cotton in the entrance of the nose on the way home. This absorbs the little oozing of blood and serum which exists even when the nose is packed. The cotton may be changed as often as it is soaked, but the patient may take it out at home so that he can breathe through the nostril. This dressing I leave in the nose from four to six days. In order to remove the dressing I cocainize the nose, loosen the borders with peroxid of hydrogen, and take hold of the dressing with a pair of nasal forceps; usually it comes out as a whole like a cast of the lower turbinal; very slight bleeding follows from the torn granulations. There are several precautions to be observed to make the whole procedure smooth and successful.

Care should be taken that the instruments used to introduce the gauze into the nose, as well as those with which the gauze is pressed against the wound, are perfectly smooth and dry, as otherwise the gauze might stick to them and thus be torn from the wound. An ordinary eye dropper would not do for dropping the collodion on the wound. The collodion would flow too quickly. It must be dropped on the wound slowly and carefully, so that it does not run down into the pharynx, which might make the patient gag and cough.

One could use a fine Eustachian catheter, on the wide end of which a small rubber bulb is mounted, fastened air-tight with a rubber band. I use a small metal tube 9 cm. long and 1 mm. thick with a tulip tip one one end. I fill the rubber bulb of an ordinary eye dropper and slip it over the tulip tip. When not in use the end of the tube must be kept closed with the fingers or a piece of gauze so that the collodion can not evaporate and clog the tube. If this happens, a wire has to be run through; and this must always be done after use. Experience will teach what is the best consistency of the collodion. If it is too thin it will flow too quickly, and if it is too thick the tube will become clogged.

To prepare the small pieces of gauze I cut moist gauze into squares three by three inches. These I place between two pieces of sterile lintine and put them between smooth, hard boards in a press where I leave them for a day. The lintine is carefully removed and the gauze presents a stiff sheet ready to be cut into small pieces about three-quarters by one-quarter of an inch. In preparing the compressed cotton I take a nasal tampon (Dr. Simpson's Intranasal Tampons) cut it up into pieces to suit and press them like the gauze. If they are not pressed the layers of the tampons are often loosened by the cutting. The end of the collodion tube should be frequently wiped off by an assistant, as the collodion often thickens at the end and thus prevents a free outflow. In wiping the nurse should take hold of the tube with one hand and wipe off with the other one, as in this way only the tube can be cleaned quickly and thoroughly.

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[*] Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty ninth Annual Session, held at Chicago, June, 1908.

[1] THE JOURNAL A. M. A., Oct. 7, 1905.

TREATMENT OF GONORRHEA BY SUCTION AND IRRIGATION.

J. B. McNERTHNEY, M.D.
TACOMA, WASH.

For nearly two years, in treating various stages of gonorrhea in the male, I have used a combination of suction and irrigation. To facilitate this method of cleansing and irrigating the urethra I have designed a catheter (Fig. 1), differing from the many styles of recurrent catheters only in that it is well grooved on two sides and that the lumen is continuous at the tip.

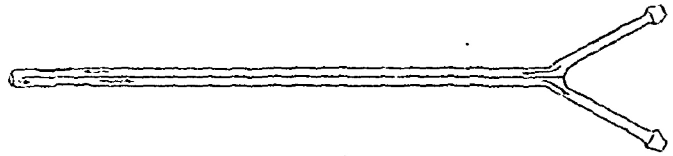

Fig. 1.—Catheter for irrigation in gonorrhea.

To one arm of the catheter is attached hydrostatic pressure; to the other arm is attached a suction apparatus—none so efficient as the little suction apparatus known as the saliva evacuator, which dentists employ to keep the mouth free of saliva during long dental operations. The disadvantage of the suction apparatus is that it is expensive, as it requires extra plumbing. This disadvantage may be overcome, however, by using the suction end of an ordinary air-pump (Chapman's) coupled to an ordinary water faucet.

By alternating, every second or two, irrigation with evacuation, any part of the urethra desired can be cleansed with the antiseptic fluid, thus removing pus, shreds and other detritus.

I have seen a goodly number of acute cases with abundant discharge become entirely free of discharge after this method of washing the anterior urethra with gallons of any weak antiseptic solution in less time than they would become so by any other plan of treatment. The entire infection was thus confined to the anterior urethra.

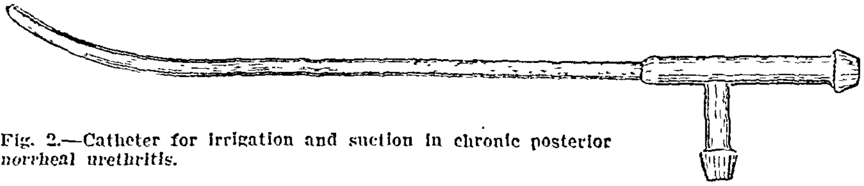

Fig. 2.—Catheter for irrigation and suction in chronic posterior gonorrheal urethritis.

In chronic posterior gonorrheal urethritis the same scheme with catheter (Fig. 2) has been used, except that here a small amount of irrigation and a marked degree of suction have been used—really producing a suction hyperemia (Bier).

The constant employment of this method for two years in various stages of gonorrhea makes me more enthusiastic in its use than ever, and prompts this preliminary report.

1203 North Fife Street.

A REPORT OF SOME CASES OF RAT LEPROSY.

AGNES WALKER, M.D.
Bacteriologist to the Sacramento Board of Health.
SACRAMENTO, CAL.

Articles having appeared recently in The Journal and the *Public Health Reports* describing the leprosy-like disease observed among the rats in San Francisco and Oakland, it seems advisable to report the cases which I have found in this city during the past month.

Previous to that time I had not been searching for them, and although a number of "mangy" looking rodents were brought to the laboratory no special examination was made of their skins, and I feel certain that a number of cases of the disease passed through my hands without recognition.

For the past month, however, I have been keeping a careful lookout for them, and out of some 2,780 rats examined have found fourteen which presented unmistakable cases of leprosy. Of this number ten were males and four females; all were of the species *Mus Decumanus* (or *Norvegicus*). A few others, I believe, may have had the disease, as they showed more or less alopecia and thickening of the skin, but no nodules or ulcers were present, and the bacilli could not be demonstrated. Of the 14 positive cases all showed alopecia more or less marked in degree—sometimes confined to some one region (most frequently the back and hind-quarters), but in one case affecting practically the entire body. The remaining hair was invariably dull and lifeless in appearance, entirely lacking the soft, velvety look of a healthy rat's fur. The skin of the affected region was always more or less thickened and on section seemed tough and resistant to the knife and somewhat adherent to the underlying tissues. The subcutis frequently showed a slightly yellowish tinge, but the granules described by Dr. McCoy[1] were never observed, nor the subcutaneous congestion noted by Dr. Wherry.[2] Distinct nodules were seen in one case only, but ulcers, varying greatly in size and number, were found in nearly every instance, surrounded by greatly thickened and indurated skin. These ulcers were sometimes very shallow and superficial, but in advanced cases they penetrated deeply into the subcutaneous tissues. They were irregular in outline, and the discharge from them was always slight, and dry in character.

The acid-fast bacilli, morphologically identical with those of human leprosy, were always found in enormous numbers in the discharge from the ulcers, also in "smears" from the affected skin. In the very advanced cases these bacilli were also present in small numbers in the spleen and liver, and, in one instance particularly, were found in great numbers in the axillary and inguinal glands. These glands were distinctly enlarged in this case, but showed no congestion. No perceptible enlargement of the glands was noted in the remaining thirteen cases, although the bacilli were sometimes found in the "smears."

Of the fourteen rats examined three were too badly decomposed to permit of complete dissection; in the others careful macroscopic examination failed to disclose any change in the internal organs, even when the typical bacilli were found to be present in them.

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[1] Leprosy-like Disease in Rats, George D. McCoy, Public Health Reports, xxiii, 28, July 10, 1908.

[2] The Leprosy-like Disease Amongst Rats on the Pacific Coast, W. B. Wherry, The Journal A. M. A., June 6, 1908.

In the discharge from the ulcers staphylococci, streptococci and various bacilli other than the acid-fast were always seen, but in the unbroken skin, glands and internal organs, when present at all, the leprosy bacilli were unaccompanied by any other organisms. No histologic examinations have been made.

These fourteen rats were captured at five different locations, four of which were within a very few blocks of each other. Six of the fourteen were received in one day from one place. A guinea-pig inoculated subcutaneously over three weeks ago has remained in perfect health, the wound having healed completely. No rats have been inoculated.

The following notes give a good picture of the various stages of the disease as it has come under my observation:

Rat 1.—Adult male *Decumanus*. Large and well-nourished. Hair dull and lifeless in appearance, and thin about the hind-quarters. No nodules or ulcers present. Skin over hind-quarters thickened and indurated, and "smears" from its inner surface show a small number of acid-fast bacilli resembling those of leprosy. Glands not enlarged; no bacilli present. Internal organs apparently normal.

Rat 2.—Large adult male *Decumanus*. Well-nourished; no emaciation. Hair dry and lusterless; very thin on flanks and
'ers, entirely absent in places. Several small circular
irating quite deeply into subcutaneous tissues.
hind-quarters. A large scab, thin and dark-red
the size of a dime, over right hip, with slight
from one edge. Skin not much thickened.
the tail, for a distance of about two inches,
'ssues have been entirely destroyed, leaving
One toe is gone, and another is almost
from the left hindfoot—possibly due to
of rat very repulsive. Acid-fast bacilli
ers in "smears" from ulcers and skin.
dvanced to permit of further examination.
le *Decumanus*. No emaciation. General
nodules. A few small ulcers scattered
d by greatly indurated skin. Peripheral
enlarged, but not congested. Acid-fast
in ulcers, skin and glands; a very few
liver. Organs appear to be normal.

nt question is, of course, the relation-
and human leprosy—a question which
er at the present time. The compara-
ıber of cases of rat leprosy found in com-
hich human leprosy occurs so rarely would
ıte that the disease as it appears among
s not transmissible to man, but possibly the
een man and rat in our present state of
is not sufficiently close to permit of infection
ıer less sanitary conditions, might take place.

is Apartments.

RCERATED FEMORAL HERNIA, CONTAINING THE VERMIFORM APPENDIX.

ANTONIO M. CRISPIN, M.D.
NEW YORK CITY.

History.—Mrs. A. S., aged 75, living in Hoboken, N. J., came to this city seeking relief for her distressing condition. Patient had had ten children. Her rupture appeared while she was in Europe, and she was operated on there five years ago. The operation gave relief for two years, when the hernia again recurred, but did not give her much trouble because she could easily reduce it. It had grown steadily, and for the last four months she was unable to replace it. At the time she was seen it caused her much annoyance and pain, especially while walking.

Examination.—A large tumor painful to the touch and about size of a cocoanut was seen on the right side below Poupart's ligament. Over the tumor there was a linear scar two and a half inches long. As the hernia was incarcerated and there was no hope of reducing it by taxis, I decided to operate. Considering the advanced age of the patient and her weakened condition it was thought best not to use general narcosis, but to employ local anesthesia. She was kept in bed for two days before operation, so as to test her ability to endure recumbency.

Operation.—On Jan. 3, 1908, under cocain anesthesia an incision was made over tumor. Examination of the contents of the sac revealed the presence of an inflamed appendix, five inches long, with the intestines of an ominous looking blackness. To facilitate the reduction and a thorough inspection of the bowel, and to avoid any abnormal vessel in the vicinity, it was necessary to cut upward and inward, thus dividing Gimbernat's ligament. As the appearance of the bowels was suspicious, the incision was carried upward over Poupart's ligament and the intestines freely exposed. The separation of the adhesion was accomplished with some difficulty. The appendix was then tied and resected, the stump being touched with phenol (carbolic acid) followed by alcohol. After satisfying myself that the intestines were not gangrenous, the hernia was reduced, the sac tied by transfixing it, and dropped back into the abdominal cavity. The canal was closed with seven sutures of 40-day No. 4 catgut, suturing from within outward, including the periosteum of the pubes, the pectineal fascia and Poupart's ligament. The recovery was uneventful.

The interesting points in this case are the presence of the appendix in the hernia, an uncommon occurrence, the advanced age of the patient, and the satisfactory result of the local anesthesia.

854 Lexington Avenue.

UNTOWARD RESULTS FROM DIPHTHERIA ANTITOXIN.

WITH SPECIAL REFERENCE TO ITS RELATION TO ASTHMA.

HERBERT F. GILLETTE, M.D.
CUBA, N. Y.

The Journal, Jan. 25, 1908, published a letter from me asking for reports of cases in which the injection of diphtheria antitoxin had been followed by alarming symptoms or death, especially noting whether there was any history of asthma in the case.

Out of about 10 reports received the information was definite and positive concerning 23 cases.

Sixteen of the 23 histories gave a history of some form of respiratory distress. Six of the 16 cases resulted in death and 10 of the 16 went into a state of collapse, with final recovery.

Seven of the 23 cases gave no history of respiratory distress, and that fact was definitely determined. Four of the 7 patients died, and 3 patients went into a collapse, with final recovery.

CONCLUSIONS BASED ON THE REPORTS.

1. There is a certain element of danger if any form of horse serum is used in subjects who suffer from any form of respiratory embarrassment, such as asthma, the so-called cardiac or renal asthma; hay fever, with resulting asthma, and in subjects liable to irritation of the mucous membranes when about a horse or a stable, whether asthma has resulted or not.

2. Collapse or death is accompanied by a respiratory crisis, and when death occurs it takes place usually in less than ten minutes from the time of the injection.

3. The administration of any variety of horse serum is liable to cause collapse, or death, if the subject suffers from respiratory distress, and it is not due to any toxin or antitoxin or to any errors on the part of the maker of the serum, or to the age of the serum, but is due to some highly organized proteid which is present in the serum, and it is the reaction of the proteid which causes the crisis. This reaction takes place only under certain conditions.

4. The heart continues to act long after respiration has ceased.

This is but a preliminary report, and at some future time I hope that a more complete one may be given.

Therapeutics

INSOMNIA.

Before discussing the treatment of this troublesome condition, it may not be amiss to consider what is believed to be the normal physiology of sleep. Dr. Alexander Morison, in the *Lancet*, Feb. 8, 1908, discusses at some length the subject of sleep and sleeplessness. There seems to be no doubt that cerebral activity is coincident with an increased circulation in the brain, the same as is true in any other part of the body that is actively functionating. When sleep occurs the circulation in the brain diminishes, the heart becomes slower, blood pressure diminishes, the surface circulation is increased, and the temperature falls, probably both by diminished muscle and cellular activity and by the increase of heat radiation. In normal sleep the pupils are contracted, perhaps Nature's method of inducing sleep by first shutting out all light. In death, coma, or profound unconsciousness the pupil is found dilated. It has been suggested that the far-reaching tendril from the cerebral cell may retract its processes during sleep and therefore be a cause of sleep. Morison thinks that this theory is not tenable, as it takes but slight peripheral stimuli to awaken a sleeping person. Also, a man may go to sleep even in the midst of noise which he has interpreted and has willed to shut out from causing any irritation of his cerebral cells. On the other hand, this same man may be quickly aroused by a new and even less intense sound. There must, then, be some changes in the cerebral cells themselves or some higher control must temporarily stupefy or perhaps anesthetize them.

Morison thinks that the cause of sleep is a chemical one. During the normal activity of the cerebral cell the chromophile substance is utilized by the cell and slowly diminishes in quantity. Also, during this cellular activity granules that stain with fuchsin increase in numbers and "the nucleus of the cell increases in volume, and the particles of chromatin adherent to it tend to become elongated. During rest or sleep the chromophile substance again gradually accumulates, and the above granules diminish in numbers and the nucleus assumes a smaller volume." These findings are the results of careful study of the activity of the cerebral cells by Ford Robertson (Pathology of Mental Diseases, p. 226, Edinburgh, 1900). In other words, the cause of sleep seems to be a chemical one, a fatigue caused by the products of active metabolism the same as a muscle becomes fatigued by the products of its excessive activity.

Individuals vary greatly in regard to the length of time they may work mentally without fatigue or without the necessity of sleep. They also vary greatly in the rapidity with which such fatigue is abolished and the brain again alert and ready for activity. Consequently there is considerable variation in the amount of sleep that is needed by different individuals.

Morison divides sleeplessness into three groups: the cellular, the neural and the hemic. The most frequent cause of insomnia comes under the cellular group, i. e., sleeplessness due to worry and neurasthenia, and "worry keeps awake and kills more than work."

Under the heading of neural insomnia Morison classes insomnia due to bodily discomfort and pain. Such slight discomforts as the sensation of being overheated or the sensation of being too cold, or even the sensation of hunger, and certainly of thirst, may cause wakefulness. Many an infant is wakeful because it is too hot or too cold, sometimes because it is hungry, and often because it is thirsty.

Perhaps "the least frequent cause of insomnia is the hemic cause." This may be due to either actual circulatory disturbances or to a condition of the blood that is either irritating to the cerebral cells or is not sufficient for their repair.

ANOTHER CLASSIFICATION.

While this classification of the causes of insomnia by Morison is a good one, it would seem as though one that could be better used for deciding the treatment of the condition would be as follows:

First: Insomnia Due to Pain.—It requires no discussion to assert that until pain is stopped sleep can not take place. The best method to stop the pain must be decided by its location, its intensity, and the frequency of its recurrence. If the pain is real, it is as absurd as it is useless to use any hypnotic other than the easer of all pain, opium or some of its alkaloids. The amount of any other hypnotic or nerve sedative that is required to stop acute pain is dangerous and toxic. On the other hand, if the pain is so severe as to require doses of morphin that are dangerous or the frequency of which is dangerous, an anesthetic, as chloroform, must be considered.

Second: Insomnia Due to Mental Excitement.—This excitement has, of course, synchronously with it an increased circulation through the brain; thoughts come rapidly, the day's scenes are lived over and over again, and decisions for the future are made. Such cerebral excitement may be caused by pure mental stimulation, as some very exciting affair in life's career, or may be due to actual stimulation, as by caffein (coffee and tea), alcohol, strychnin, quinin, salicylic acid, belladonna, or other stimulating drug. If the cause of such mental stimulation is rare, the condition could hardly be called insomnia, but if such mental stimulation is repeated insomnia occurs, and it is absurd to give hypnotics to such a patient while evening stimulation by some one of the above-named drugs is allowed. Many a patient is given a hypnotic for sleep while he is taking quinin and strychnin as a tonic after supper, and with the allowance of a liberal dose of tea or coffee. If this cerebral stimulation goes farther it becomes cerebral irritation, and if such irritation is continued, meningitis with delirium is the outcome. In prolonged cerebral excitement it is absolutely necessary to give the mental rest that is needed for recuperation, else meningitis may occur on the one hand, or insanity on the other. Peaceful surroundings, a dimly lighted room or an absolutely dark one, and the withdrawal of all stimulants to the circulation or cerebrum, and even, perhaps, the withholding of food and the administration of the hypnotic considered best is the treatment.

Third: Insomnia Due to Worry.—Worry is another frequent cause of insomnia, and, unfortunately, can many times not be removed as a cause. Sometimes hypnotics are needed, and sometimes stimulation is required to relieve the mental depression and to cause sleep. If there is bodily illness to cause the depression, the patient is liable to acquire the habit of taking hypnotics either through the thoughtlessness of a physician in not ordering a hypnotic stopped or from the repetition by the patient of the hypnotic prescription, or by the narcotic or hypnotic "patented" preparations. As a protection both to patients and to their physicians, any narcotic or hypnotic prescription likely to form a habit should not be repeated by a druggist without the authority of the physician. On the other hand, continued worry, depression and sleeplessness may cause or form the groundwork for melancholia. In other words, such sleeplessness is serious. These patients are also likely to become addicted to morphin or opium, though not so likely as those who suffer from repeated or chronic pain, as, for example, in sciatica. These patients, who are also often overworked, are likely to acquire the alcohol habit.

Fourth: Insomnia Due to Disturbances of the Circulation.—Too high blood pressure, or too low blood pressure, or a rapid heart, or passive congestion from a valvular insufficiency, pulmonary tuberculosis or emphysema may cause sleeplessness. This sleeplessness occurs in hypertension or in arteriosclerosis, and the high blood pressure of chronic nephritis is frequently the cause of insomnia. In this condition any drug or physical method that diminishes the blood pressure and slows or quiets the heart will cause sleep. Low blood pressure after hemorrhage may cause the patient to feel sleepy, or if he is very thirsty may cause sleeplessness. Low blood pressure and an imperfect condition of the blood from anemia often causes the patient to be sleepy in the daytime and perhaps sleepless at night; in other words, sleepless when he lies down. Anything that improves the blood or raises the blood tension in this condition will often produce sleep. In terminal conditions of chronic disease there may be sleeplessness from low blood pressure, or perhaps more frequently from toxins circulating in the blood. Neurasthenics are likely to be sleepless from a vasomotor ataxia; that is, they are sleepless in the daytime from a dilatation of the vessels of other parts of the body and consequently a too low cerebral blood pressure, and when they lie down at night, instead of the abdominal vessels dilating properly and relieving the blood pressure of the brain, the patients have too much cerebral circulation. In the passive congestion of the brain from cardiac insufficiency as is so often noted in valvular disease, digitalis will not only improve the heart condition but will soon relieve the insomnia.

Fifth: Toxins in the blood are a frequent cause of insomnia. These may be simply those due to intestinal indigestion, or may be due to kidney or liver insufficiency, or due to irritations that are supposed to occur from too much uric acid, in gout. Some of these toxins are more or less soporific; the majority are irritants to the central nervous system.

TREATMENT.

The diagnosis of the cause of insomnia having been made, the proper treatment can more rationally be determined. It is absurd to treat insomnia. It is rational to treat the cause of sleeplessness. Every instance in which the physician cures the habit of insomnia by physical methods or by a modification of the patient's diet or life deserves the highest praise.

When insomnia is due to pain morphin is justifiable and indicated. If the pain is continuous or tends to recur perhaps surgical interference with its cause may be needed. In the continuous pain of the last stages of carcinoma administration of morphin is certainly justifiable. Patients who have acute or chronic pain and need morphin of course soon acquire the habit, but bad as the habit is, there is no other drug that will stop real pain or give the sleep that is necessary without doing more harm than morphin can do. On the other hand, it must be carefully decided that the pain is real and not neurotic or hysterical. When the cause of the pain is removed the physician should never discharge the patient until he is sure that the morphin habit has been discontinued. The physician should also give the morphin to the patient and never write a prescription for it, or allow a necessary prescription to be repeated without his sanction.

In insomnia due to mental excitement the treatment has been somewhat suggested above. As this insomnia is generally not repeated when the cause is removed, a dose or two of bromid or chloral is perhaps the most satisfactory treatment. Sometimes a warm bath is very successful with these patients. The bath should not be sufficiently cold to stimulate and not sufficiently hot to stimulate. Hot drinks and very cold drinks should be avoided. The best cure of this insomnia is its prevention. Tea, coffee and alcoholics should be prohibited.

In the insomnia of worry, hypnotic drugs should rarely be used. A careful study into the causes of the worry, the diet, the appetite, and the general health of the patient will generally disclose indications both for good advice and perhaps for medical treatment directed toward improving the general condition. The coverings of the patient at night should not be too thick or too weighty, neither should he be allowed to become chilled. The height of the pillow and its softness should be just right. A drink of hot milk, or of malted milk, or the eating of a few crackers and the drinking of some water may cause sufficient blood to go to the abdominal organs to produce the normal lessening of the circulation in the brain that occurs in sleep. If the patient has cold feet or feels chilly after going to bed, he should either have bed slippers or possibly a hot water bag, and sometimes a hot water bag, not too weighty, on the abdomen will cause sleep.

In the insomnia of neurasthenics a general toning up of the circulation by hydrotherapeutic measures, massage, and various physical exercises is a good method of relieving the sleeplessness. Sometimes a hot wet sheet wrapped around the naked body, then putting the patient to bed and covering him with a blanket induces sleep. At other times the wrapping of a cold wet sheet around the body and friction and massage over the sheet causes a surface circulation sufficient to relieve the increased circulation of the brain, and sleep supervenes.

In such conditions of worry or debility or neurasthenic conditions, a toning up of the circulation is of advantage. Sometimes a dose of digitalis, as 20 drops of the tincture two or three hours before bedtime is conducive to sleep. Also one-half a teaspoonful of good fluid extract of ergot tends to tone up the blood vessels and quiet the nervous system and cause sleep. Unless the patient is old and there is perhaps arteriosclerosis, alcohol should rarely be given to this class of patients with insomnia. While it is often successful, they very easily form a habit or desire for alcohol. If a hypnotic must be used it must not be the more depressant hypnotics, but may be sulphonal or trional, or a similar drug, or perhaps for a few times the hydrobromate of hyoscin. But, as above stated, the patient should be cured, if possible, of the condition without the use of hypnotics.

Disturbances of the circulation quickly affect the cerebrum and may cause headache and sleeplessness. Anything that causes venous congestion from an insufficiency of the heart, due to valvular disease or dilatation of the heart, or when the pulmonary circulation is interfered with as by pulmonary tuberculosis, emphysema, or asthma, there is more or less sluggishness of the circulation in the cerebrum and the aeration of the blood is interfered with and insomnia is often the result. Any treatment that tends to improve the conditions named will allow the patient to sleep. Consequently, in such conditions digitalis often acts as a hypnotic. Alcoholic stimulation may be advisable and warranted, and the result is often satisfactory.

The cerebral congestion that occurs in pneumonia with wakefulness and often delirium is doubtless due not only to impaired aeration of the blood and venous congestion, but perhaps to toxins in the blood. Whatever means are best to cause sleep in pneumonia, purgatives should generally be freely administered to remove from the system as much toxic material as possible. The best hypnotics for the insomnia of pneumonia are bromids, chloral, or hyoscin. Ergot given hypodermatically is sometimes of value by its ability to relieve irritation and perhaps congestion of the central nervous system. Morphin should be avoided in pneumonia, if possible, and the same is true in phthisis, unless the patient is too weak for any other hypnotic. The dose, however, should be small.

The sleeplessness of asthma may require morphin if other hypnotics have proved of no avail.

In sleeplessness from cardiac disability the safest hypnotic is a small dose of morphin, and often 1/10 of a grain by the mouth is sufficient.

In the administration of morphin for quieting or producing sleep, *when there is no pain,* it should be noted that a very small dose, as 1/12, 1/10, or 1/8 of a grain (but 1/10 is generally better than 1/8) will cause a sedative action on the nervous system, while a larger dose, as 1/6 of a grain or more, may cause spinal cord stimulation, and then to produce sleep the dose must still be larger, as perhaps 1/4 of a grain. In other words, if a dose of any size of morphin is given, the primary effect is spinal cord stimulation much as occurs in animals under morphin, and is not dissimilar to the action of strychnin. The secondary effect is to stupefy the higher centers which inhibit the stimulations ascending the spinal cord and the result is sleep.

In the sleeplessness of arteriosclerosis, in old age, or in kidney insufficiency the blood pressure should generally be reduced, unless the heart is weak. A small dose of nitroglycerin at night will often cause sleep. The dose should be either 1/200 or 1/100 of a grain, depending on the effect. A tablet should not be allowed to dissolve on the tongue, but should be taken with a drink of water. The slower absorption thus obtained prevents the first flushing of the face and the primary dilatation of the cerebral vessels. The blood vessels of the system becoming dilated relieves the cerebral pressure and sleep is caused. If a hypnotic drug is used for this condition it may be one of the synthetic products or chloral. Morphin ordinarily should not be used, and bromids should generally be avoided in old age. In old patients who suffer from sleeplessness it may be perfectly justifiable and is often advisable to allow a "nightcap" of some form of alcohol—the form found to act most satisfactorily. Perhaps one of the best combinations is a little rum in half glass of warm milk, or a little warm toddy. The surface circulation is thus dilated, the internal tension is diminished, and the patient sleeps.

In the sleeplessness from low blood tension cardiac tonics are often the best treatment, and even strychnin may aid the patient to sleep, as such patients often feel faint, or wake up with palpitation. All depressing hypnotics, and all are more or less depressant, should be avoided. Whether the patient is anemic or neurasthenic, or recovering from some serious illness, the treatment is that of tonics, good hygiene, and the use of such drugs only as will cause general improvement. Hypnotics should not be given except in rare instances, and then only a few doses, and best one of the synthetic hypnotics.

In this condition of low blood pressure, and also commonly in the cerebral sleeplessness following influenza, ergot acts as a hypnotic. The dose is from a half teaspoonful to a teaspooonful of a good fluid extract.

Various disturbed conditions of the organs of the body cause toxins to be formed, which circulate in the blood or remain abnormally in the blood, and a large number of these toxins are cerebral irritants. Such a condition is then a frequent cause of insomnia. The causes of the formation and absorption of these toxins are intestinal indigestion, kidney and liver insufficiency, and hyperthyroidization, due to an increased secretion of the thyroid, or Graves' thyroid disease. The cause of the autointoxication having been determined by clinical investigation, the treatment should be aimed to remove or improve that condition, and the sleeplessness will perhaps be cured by such methods alone. If a hypnotic must be used, it should be one of those that would not increase the disturbance or injure the part diseased. Morphin should be absolutely avoided in this sleeplessness, and if the cause is intestinal indigestion, cathartics and such a diet should be prescribed as would relieve the indigestion. Bromids should not be given; a synthetic hypnotic is the best. Intestinal antiseptics are indicated.

In kidney insufficiency, the bromids are the safest hypnotics. Chloral rather tends to irritate the kidneys, and the same is true of all the synthetic hypnotics, and morphin is contraindicated. The aim of the treatment, however, should be to relieve the nitrogen poisoning that is perhaps causing the irritation due to the inability of the kidney to excrete nitrogen and perhaps some salts. Catharsis, hot baths, and a purin-free diet are indicated.

In liver insufficiency, great care must be used in administering any strong drug, as with the liver in trouble the activity of any strong drug or alkaloid is increased, and with the liver badly diseased a dose of an alkaloid acts as strongly by the stomach as when given hypodermatically. If a hypnotic is needed, bromids or chloral are the safest in this condition.

In thyroid hypersecretion the patient should be kept at rest, all stimulants should be prohibited, even coffee and tea, no meat should be eaten, and if a hypnotic is needed bromids are the best.

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[*For other information see second page following reading matter*]

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PREVENTION OF THE FATAL INTOXICATION THAT SOMETIMES FOLLOWS SEROTHERAPY.

In practical medicine the most important feature of the anaphylaxis or hypersensitization reaction concerns its relation to the cases of sudden death which have occasionally followed use of serum for therapeutic purposes. It is highly probable, in view of the identity of the symptomatology of the reaction in guinea-pigs and the symptoms as described in the cases of serum intoxication in man, that the latter are the results of intoxication with a foreign protein in persons who have been sensitized to this protein, often in some unknown way. This fact, however, has raised two important questions; one being why fatal or serious accidents have so seldom occurred in view of the frequency with which two separate injections are given to one individual at a considerable interval; the other, whether the fact that a person has had a dose of horse serum for therapeutic purposes renders it unsafe to administer another dose at some later time. The answer to both of these questions probably lies in the difference in the effects of doses of serum by different routes; and as this explanation seems not to have been advanced in the clinical literature, so far as we have observed, it may be advisable to mention it here.

In order that the second or intoxicating dose of serum may produce its lethal effects it must enter the circulating blood and be present in the blood in something more than an infinitesimal amount. Presumably it is in the central nervous system that the foreign protein produces its effects, and it must reach this tissue by the blood (or by direct injection) in not too extreme a dilution. Consequently, it is found that a much smaller dose of protein will kill sensitized animals if injected directly into the blood than if injected into the peritoneum, and the symptoms appear much sooner, for absorption from the peritoneum is slow, and the amount of foreign protein in the blood at any one time is necessarily small. Lewis[1] states that 0.01 c.c. of serum is a certainly fatal dose by the intracardiac route, and 1/150 c.c. will sometimes kill. By the intraperitoneal route 3 c. c. is almost certainly fatal, he says, although others have found much smaller doses fatal sometimes by this route. By the subcutaneous route, Lewis says, "it is probably impossible to reach the certainly fatal dose because of the impossibility of getting rapid absorption. As 5 or 6 c.c. always develops a well-marked reaction, it is probable that from 15 to 20 c.c., if absorbed at about the same rate, would be certainly fatal." The experience of other experimental workers has been similar to this.

If we consider, therefore, that 5 or 6 c.c. of serum subcutaneously will not kill a 300-gram guinea-pig that has been carefully sensitized, it is quite evident why a similar dose does not produce noticeable effects in a man weighing 60,000 to 70,000 grams, or even in a child of 10,000 grams or more. On the other hand, if the second injection should be made into a vein, by accident, the fatal dose would be almost certainly obtained, for by the intravascular route 1 c.c. is fatal to at least 30 kilos of guinea-pigs, and if a man is equally sensitive 2 c.c. would be a fatal dose for an adult. It would seem very probable, therefore, that the few cases of fatal intoxication with foreign serum represent the occasional instances in which the serum has been injected directly into a vein in a person who has been previously sensitized, thus explaining the fortunate infrequency of these catastrophes. Any one who has seen the violent local reaction which sometimes follows a second injection of antitoxin can easily appreciate how probable a fatal outcome would be if the injection had entered the blood.

If this is the correct explanation of the serious results that sometimes follow injection of serum for therapeutic effects,[2] it should be easy to avoid danger from a second injection and thus make repeated use of serum when necessary a safe procedure. Injections should be made in all cases with a glass-barreled syringe, and by gentle aspiration before injection the presence of the point of the needle in a vein would be indicated by entrance of blood into the syringe. If one had reason to fear sensitization, knowing that the patient had been previously injected with serum, it would undoubtedly be well to give but a small fraction of the serum, say 0.5 c.c. at the first dose, waiting a few hours before the second, for it is known that sensitized animals receiving less than a fatal dose at the second injection are then refractory to large doses given a few hours or days later. This latter precaution, of injecting a small preliminary dose to sensitized patients, has already been advocated and used by V. C. Vaughan, Jr., and possibly by others.

THE PRESENT PANDEMIC OF PLAGUE.

The present prevalence of plague is now in the fifteenth year of its spread. In the lines of march taken since its advance in 1894 from the province of Yunnan, China, it has by gradual expansion spread to all quarters of the globe, fixing itself in many cases in localities from which the most carefully planned preventive measures have failed to dislodge it. Last week we referred briefly[1] to a pamphlet issued by the Public Health and Marine-Hospital Service entitled "The Present Pandemic of Plague" by Assistant Surgeon-General J. M. Eager. The geographical progress of the epidemic is described by Dr. Eager and he gives in the form of tables the localities throughout the world in which plague has occurred. Within six years after its revival plague had reached every continent, and the further extension of the disease became largely a matter of intracontinental diffusion. Fifty-two countries have been infected since the primary outbreak. A few cases only have been recorded in some of the countries invaded and apparently the disease has been suppressed, but in other countries it has established itself firmly, causing great mortality. As a whole the disease has continually gained territory. The routes taken in its travel by sea are shown in the extensive tables of plague on vessels given in the pamphlet indicating that during the present prevalence the disease has advanced, as in previous pandemics, along the highways of commerce.

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[1] Jour. Exper. Med., 1908, x, 5.

[2] Dr. Isaac M. Heller, in The Journal, Aug. 8, 1908, suggests that collapse after antitoxin injections may be due to the *sudden entrance of a large* quantity of foreign fluid into the blood stream. However, the injection of much more than the ordinary dose of antitoxic serum into the vessels would probably cause no harm if the patient were not previously sensitized

The long duration of plague pandemics is historical. The so-called Justinian Plague in the sixth century lasted over fifty years. The duration of the Black Death of the fourteenth century is difficult to determine because of the difference of opinion as to the nature of the pestilential diseases which sprang up in various places after the Black Death was pronounced extinct. But it is at least certain that the pandemic prevailed over a long period of years. The present pandemic, as chronicled by Eager, though now in its fifteenth year, is more diffused than previous pandemics owing probably to the extent of modern commercial movement. It continues unabated in places in which its attacks have been most malignant and threatens long duration with a sinister uncertainty as to future manifestations.

In a recent interview with Professor Kitasato of Tokyo, Dr. Robert Koch said that he considers the problem of plague prophylaxis as essentially equivalent to the extermination of the rat. This, he said, can scarcely be accomplished by the employment of ordinary means, since they involve an expense which the public will not tolerate. Professor Koch is of the opinion that the most rational method of fighting rats, as well as the one most likely to be successful, would be to invoke the aid of the rat's most natural enemy—the cat. Koch outlined a systematic plan in which he suggested that keeping domestic cats should be compulsory and that every effort should be made by selection and breeding to improve the "ratting" capacity of the felines.

But, as was mentioned last week,[2] another rodent, almost as universal in its distribution in the United States as is the rat, viz., the ground squirrel (*Citellus beecheyi*), must now be taken into account. We have already briefly referred to the fact that the plague has been found in the ground squirrel. The latest U. S. Public Health and Marine-Hospital Service Public Health Reports contain official confirmation of the finding of the plague bacillus in this rodent by Passed Assistant Surgeon McCoy. In Dr. McCoy's investigations the presence of *Bacillus pestis* in the ground squirrel was proved by bacteriologic experiments, in which rats and guinea-pigs died from infection, presenting characteristic lesions of bubonic plague. The lesions occurred both after inoculation with pieces of the squirrel's lung and from the injection of cultures of the organism obtained from it. The importance of the squirrel in the spread of plague is thus demonstrated.

Of course the demonstration of the bacillus in the ground squirrel merely proves what for some time has been suspected. It will be remembered that in 1906 Dr. N. K. Foster[3] expressed the belief that the ground squirrel was probably the cause of at least one case of plague in Oakland, Cal., and the researches of Dr. Donald H. Currie[4] along similar lines have led to the same conclusions. Dr. Currie's theory that some day there may possibly be plague in the Mississippi Valley takes on an added interest and still further emphasizes the national importance of guarding against pestilential invasion.

HISTOPLASMOSIS HOMINIS.

Dr. Samuel T. Darling, of the board of health of the Canal Zone, in 1906, described[1] certain protozoan organisms discovered by him in peculiar lesions in the lungs, spleen, liver and bone marrow of a negro. Since then Darling has observed two additional cases of the same condition, and from the recent more complete report[2] the following facts are taken:

But very little seems to be known concerning the clinical history of the disease except that in the latter stages splenomegaly, emaciation, fever and leucopenia have been present. While the cases in question undoubtedly originated either in Martinique or on the Isthmus of Panama, nothing peculiar seems to have been observed as to the hygienic conditions under which the patients were living at the time the infection probably took place. The most striking lesions observed after death appear to be small pale gray nodules, not unlike miliary tubercles, in the lungs (in two cases); somewhat smaller, more or less yellowish nodules, in the spleen, and irregular grayish or yellowish areas in the liver, together with (in two of the cases) nodular infiltrations, necrosis and ulcers in the small intestine and in the cecum. In one of the cases hemorrhage had taken place from the surface of the recent ulcers. The tuberculoid nodules seemed to be made up of epitheloid and other cells containing within them enormous numbers of the parasites in question. Many of these cells were undergoing disintegration; in the liver, for instance, masses of débris were found in which were embedded myriads of parasites. The parasites were also found in endothelial cells lining blood and lymph vessels, also in lymph nodes, in the bone marrow, and in the interesting intestinal lesions which should be studied with great exactness in favorable cases.

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[1] THE JOURNAL, Sept. 19, 1908, p. 1016.

[2] Plague in California, by Our Special Commissioner, THE JOURNAL, Sept. 19, 1908, p. 1010.

[3] In a paper read before the Section on Hygiene and Sanitary Science of the American Medical Association at Boston, 1906, and published in THE JOURNAL, Feb. 23, 1907, p. 687.

[4] Referred in the discussion that followed the reading of Dr. Foster's paper. THE JOURNAL, Feb. 27, 1907, p. 728.

[1] THE JOURNAL A. M. A., April 28, 1906, p. 1283.

[2] Arch. Int. Med., September, 1908, p. 107.

The parasites are round and oval, about 3μ in diameter and surrounded by a clear capsule. They stain irregularly, the chromatin being nearly always heaped up along one end or side and presenting various forms. Occasionally a chromatic dot and very rarely a chromatic rod are found near the larger chromatic body. The rest of the body is made up of a faintly staining substance with one or more irregularly distributed achromatic zones resembling vacuoles. The micro-organism is undoubtedly a protozoan, probably belonging to the *Flagellidia;* at least that is Darling's opinion, who names it *Histoplasma capsulatum.*

While the disease is highly suggestive, at least clinically, of kala-azar of India, which is caused by the Leishman-Donovan body, the organism described by Darling differs so much in appearance from the Leishman-Donovan body that he probably is justified in the opinion that he is describing a new and hitherto unrecognized disease. He also calls attention to the fact that nodules in the lungs have not been described as characteristic lesions of kala-azar. In the past the condition described by Darling probably has been confounded with chronic malaria and tuberculosis; undoubtedly it is so confounded even at the present day in tropical and subtropical America. Now that attention has been called to the disease it is likely that new cases will be recorded by physicians in Central and South America. Indeed, the special purpose of this brief review of Darling's work is to fix the attention of physicians on the disease.

THE REINHARDT CASE.

In another department of THE JOURNAL for this week[1] appears an account of a commendable work done by the State Board of Medical Examiners of Wisconsin for the protection of the people against imposition and gross fraud. As a chapter in the history of quackery, it is interesting; as an illustration of the credulity of the public, it is instructive. The most important lesson to be learned, however, is that those who defraud the sick should be treated like swindlers of any other variety, and should be prosecuted under the common law for fraud and for obtaining money under false pretenses. Violation of the medical practice act in most of our states is simply a misdemeanor, and is punishable only by a fine, which the violator of the law is always perfectly willing to pay, providing his business is not interfered with. Furthermore, conviction for violation of the medical practice act carries with it no stigma in the eyes of the patrons of the culprit, since the explanation is always made that he is the victim of "persecution" at the hands of the "medical trust." By the same token the green goods operator or the gold brick swindler could claim that he, too, was "persecuted" by a "legal trust." But when the sharper who has fleeced the sick man of his money is brought into court and convicted for common fraud, explanations of "persecution" are futile and the swindler stands revealed in his true light. As is well known to all members of our profession, the reason why decent, reputable physicians oppose quackery is because they know it to be based on fraud and dishonesty. Have we, perhaps, made a mistake in the past in attempting to suppress quackery by prosecuting charlatans on the technical charge of misdemeanor in violating the medical practice act when a much more effective method is prosecution for fraud and punishment by a jail sentence? The results secured in the Reinhardt case in Wisconsin, the Carson case in Missouri and the Hibbard case in Illinois show that the day of the quack, like that of the unscrupulous and dishonest business man, is rapidly passing away. We congratulate the people of Wisconsin on having a state board which labors so earnestly and effectively for their protection.

THE CHOLERA OUTBREAK.

The extensive and increasing prevalence of cholera in Russia, and to a lesser degree in China and the Philippines, would a few years ago have caused grave anxiety and alarm, if not panic, among civilized nations in the path of infection. Grave as the situation is, however, particularly for Russia, we have confidence in the strength of our knowledge of the efficiency of sanitary protection. This confidence is only increased by the prevalence of the disease in Russia and China, where the inadequacy of the general and special sanitation is merely in its results an object lesson to us. Nevertheless, in spite of the favorable results attained in fighting yellow fever and the plague, the difficulties and expense of such campaigns should warn us against over-confidence. There are doubtless many parts of this country in which it would be hard to suppress cholera should it once gain a firm foothold.

THE LYMPHATIC CONNECTION BETWEEN THE TONSIL AND THE PLEURA.

Within recent years the tonsil has been recognized as a source of infection in a number of diseases, systemic and local. Its relation to pulmonary tuberculosis has been emphasized by various writers, and certain observers have traced a supposed direct extension of the infection from the tonsil through the lymphatics of the neck to the pleura and thence to the lung. Some studies bearing on this subject have been published recently by George B. Wood.[1] An examination of the cervical glands of seventeen patients who had died of pulmonary tuberculosis showed a large percentage of glands involved, but no definite conclusions could be drawn as to the relative age of the lesions. An investigation of the anatomy of the lymphatic channels, however, leads him to believe that only exceptionally is there found a direct anastomosis of the deep cervical glands draining the pharyngeal region and the supraclavicular chain which is believed to drain the apical portion of the pleura. He believes that extension by contiguity from one of the lower cervical glands is not unlikely in certain cases, as the relation with the pleura is sometimes intimate.

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[1] Special article, page 1144, this issue.

[1] Fourth Annual Report of the Henry Phipps Institute for the Study, Treatment and Prevention of Tuberculosis.

Medical News

CALIFORNIA.

Surgeons Elect Officers.—The Pacific Association of Railway Surgeons, at its recent meeting held in San Francisco, elected the following officers: President, Dr. Thomas C. McCleave, Berkeley; vice-presidents, Drs. Hiram D. Lawhead, Woodland, and Carl Kurtz, Los Angeles; secretary, Dr. George R. Carson, San Francisco, and treasurer, Dr. Frank L. Adams, Oakland.

Accidents, Illness and Injuries. Dr. Walter P. Miller, Fresno, was thrown from his horse on a mountain trail in Kings River Canon, recently, and sustained painful injuries. —— Dr. Daniel E. Stratton, Chinese Camp, who has been seriously ill with appendicitis, is reported to be out of danger. —— Dr. Ira A. Wheeler, Healdsburg, while riding his motor cycle, collided with an automobile and was seriously injured. —— Dr. Alden M. Gardner, Belmont, fell recently while stepping from a street car in San Francisco, dislocating his right shoulder.

Personal.—Dr. Albion W. Hewlett, formerly professor of practice of medicine in Cooper Medical College, San Francisco, has been called to the chair of internal medicine in the University of Michigan Department of Medicine and Surgery, Ann Arbor.——Dr. William E. Dozier has been appointed a member of the board of health of Susanville, and has been elected chairman of the board.——Dr. Edwin Z. Hennessey, Napa, for eight years chairman of the board of directors of the Napa State Hospital, has left the board on account of expiration of term of office.

Hospital Notes.—Isaias W. Hellman gave $100,000 to the Mount Zion Hospital, San Francisco, September 10, to be used in erecting a new building to be known as the Esther Hellman Building. —— The Peninsula Hospital Company has been incorporated at Palo Alto with a capital stock of $100,000. The medical incorporators are Drs. Roy L. Wilbur, Samuel B. Van Dalsem, Josiah H. Kirk and Harry B. Reynolds. The plans call for a building with accommodation for 35 patients and equipped with the latest modern aids and appliances.——The sick quarters at the U. S. naval training station, Yerba Buena Island, are to be equipped at a cost of $5,000.——A fire in St. Caroline Hospital, Redding, August 26, caused $2,000 damage. The patients were removed without casualty.

COLORADO.

Hospital Items.—The Jewish National Hospital for Consumptives, Denver, has been bequeathed $2,000 by the will of the late Henry Berger, who died in the institution.——The Swedish Sanatorium, Englewood, is building a solarium and a number of sleeping porches.

Office Building for Physicians.—The Metropolitan Realty Company, Denver, is about to erect a six-story office and store building at Sixteenth Street and Court Place for the exclusive use of physicians. Special features of the building are a fully equipped operating room, a medical library of 15,000 volumes, and an assembly room for meetings of the profession.

CONNECTICUT.

Public Health Association.—At the annual meeting of the New Haven County Public Health Association, held at Savin Rock, Seprember 10, Carleton E. H. Headly, county health officer, was elected president; H. W. Potter, state dairy commissioner, vice-president, and Dr. Edgar A. Wilson, Meriden, secretary-treasurer.

Infectious Diseases.—During August one case of smallpox was reported; 24 cases of measles were reported from 9 towns, 43 cases of scarlet fever from 18 towns, 5 cases of cerebrospinal meningitis from 4 towns, 62 cases of diphtheria from 24 towns, 15 or more cases of whooping cough from 7 towns, 226 cases of typhoid fever from 51 towns, and 73 cases of tuberculosis from 20 towns.

Vital Statistics.—During August there were reported to the State Board of Health a total of 1,400 deaths, which is 96 less than the number reported for July, 361 less than for August of last year, and 119 less than the average number for August for the five years preceding. The annual rate of mortality for the state was 16.3 per 1,000 and the deaths from infectious diseases were 12.2 per cent. of the total mortality. Chief among death causes were diarrhea, 289; diseases of the nervous system, 127; heart diseases, 123; consumption, 107; accidents and violence, 82; typhoid fever, 32; pneumonia, 30; whooping cough, 14; diphtheria, 10; measles, 4; cerebrospinal meningitis and puerperal fever, each 2, and influenza and scarlet fever, each, 1.

DISTRICT OF COLUMBIA.

Library Donated.—By the will of the late Dr. Florence Donohue his library of medical and other works is to be presented to the Public Library as the "Donohue Collection."

Tragedy at St. Elizabeth's. An attendant and a patient were killed at the Government Hospital for the Insane, September 22, by an inmate of the institution who had previously shown no homicidal tendencies.

Pure Food Crusade.—Nearly $1,000 in fines have been imposed on the lunch room proprietors and meat dealers as a result of the food inspection that has been conducted by the health department during the summer.

Diphtheria and Milk Supply.—Dr. Eugene L. LeMerle has been directed by the health department to investigate the conditions with reference to the milk supply at Silcott Springs, Va., where a case of diphtheria was recently reported.

Health Report.—According to the health and mortality record for the week ended September 19, there were 110 deaths, of which 71 were white and 39 colored; 83 white births and 38 colored, and 218 cases of typhoid fever were under treatment. The health officer calls attention to the failure of physicians to report contagious diseases in compliance with the health regulations.

Columbia Hospital Report.—The president of Columbia Hospital reports that the work done by the hospital during the past year was the best accomplished in any of the 42 years of the institution's existence. He points out the need of improved and increased facilities. The financial report shows a surplus of over $4,000. The daily average of patients was 74.3, and the percentage of mortality exclusive of infants was 2.37, as against 2.92 for the previous year.

GEORGIA.

For State Sanatorium.—The senate appropriation committee has reported favorably on the bill of Representative Whitley appropriating $25,000 for the establishment of a sanatorium for the care and suppression of tuberculosis. Of this amount $1,000 will be appropriated in 1908, $12,000 in 1909, and $12,000 in 1910.

Medical Societies Amalgamated.—Chatham County Medical Society and the Georgia Medical Society, both of Savannah, have been consolidated under the name of the Georgia Medical Society, and the following officers elected: President, Thomas J. Charlton; vice-president, Dr. Joseph G. Jarrell; secretary, Dr. J. M. Sigman; treasurer, Dr. Ralph M. Thomson; delegates to the state association, Drs. George R. White and Thomas P. Waring, and censors, Drs. Matthew F. Dunn, John L. Farmer and Marion X. Corbin. Dr. Richard J. Nunn has offered a house and lot for headquarters of the society, under certain conditions, which provide for the lease of the property to the society during the lives of three persons, at whose death the property goes to the endowment fund of the society.

Society Meetings.—The Medical Association of the Eighth District of Georgia was organized in Athens, August 19, with the aid of Dr. Henry M. Fullilove, Athens, councilor for the district. The following officers were elected: Dr. James C. Bloomfield, Athens, president; Dr. Joshua H. Cheesling, Greensboro, vice-president, and Daniel H. Dupree, Athens, secretary.——At the annual meeting of the First District Medical Society, held in Savannah, the following officers were elected: Dr. John K. Train, Savannah, president: Drs. Alfonso J. Mooney, Statesboro, and Lloyd J. Belt, Macon, vice-presidents, and Dr. J. M. Sigman, Savannah, secretary-treasurer (re-elected).——The Vidalia Medical Society was organized July 14, with the following officers: Dr. John M. Meadows, president, and Dr. T. C. Townsend, secretary-treasurer.

ILLINOIS.

Chicago.

Hospital Opens New Building.—The University Hospital at Ogden Avenue and Lincoln and Congress streets was opened for inspection October 1, from 8 to 10 p. m.

Bequests.—By the will of David E. Fiske, who died July 15, the Home for Destitute Crippled Children and the *Daily News* Fresh Air Fund each received an annuity of $500, and ultimately each institution will receive $60,000 from the estate.

Unlicensed Practitioner Fined.—S. S. Thompson, a shoe maker, who claims to be a doctor of "mechano-theraphy," is said to have been fined $100 by a jury in Judge Scovel's court, September 19, on the charge of practicing medicine without a license.

Physician Wins Suit.—Dr. Bertha Van Hoosen was given a verdict for $700 against James Dempsey of Manistee, Mich., September 23. The suit was based on services rendered the defendant's daughter, on whom an operation for appendicitis was performed. The father declined to pay the bill on the ground of its being excessive.

Personal.—Dr. Otto T. Freer has gone to Europe.——Dr. and Mrs. Walter H. Allport and Dr. and Mrs. Julian E. Hequembourg have returned from Europe.——Dr. Emanuel J. Senn has resigned as assistant professor of surgery in Rush Medical College.——Dr. Henry B. Favill has been made a member of the commission to study the condition of employés of public and private institutions.

Communicable Diseases.—There were reported to the Department of Health, 353 cases of contagious diseases during the last week, 78 cases more than for the preceding week, distributed as follows: Diphtheria, 106; scarlet fever, 74; typhoid fever, 70; tuberculosis, 41; whooping cough, 18; measles, 16; chickenpox, 10, and diseases of minor importance, 8.

Deaths of the Week.—There were 583 deaths reported during the week ended September 26, 34 more than for the corresponding week of last year, and 58 more than for the preceding week of this year. The chief increase was in diarrheal diseases, which caused 142 deaths. Consumption caused 49 deaths; violence (including suicide), 46; heart diseases, 43, nephritis, 42; and pneumonia, 35. Of the contagious diseases, aside from tuberculosis, diphtheria caused 9 deaths; scarlet fever, 7; and measles and whooping cough, each 2.

INDIANA.

Illegal Practitioner Sentenced.—Granville V. Patrick, Shelbyville, charged with practicing medicine without a license, is said to have pleaded guilty, September 22, and to have been fined $13.65.

Municipal Hospital Assured. At the last meeting of the Kokomo city council, an ordinance appropriating $25,000 for the purchase of a site and the construction and maintenance of a public hospital, was passed with only one dissenting vote.

License of Medicine Fakers.—At the recent meeting of the city council of Kokomo, September 14, an ordinance was passed providing a license of $50 a day, under heavy penalty for failure to take out license, for all vendors of nostrums, and for advertising nostrums on the public streets.

Diphtheria Epidemic.—Ligonier is reported to be suffering from an epidemic of diphtheria: 27 positive diagnoses were made September 11, and 68 doubtful cases were discovered at the same time in the schools. The schools were therefore ordered closed.——The disease is also reported to be prevalent at Wawasee and Kendallville.

State Organization Formed.—A state organization to include all regular colored physicians, dentists and pharmacists has been effected at Indianapolis under the name of the Indiana Association of Negro Physicians, Dentists and Pharmacists, and the following officers have been elected: President, Dr. Joseph H. Ward, Indianapolis; vice-president, Dr. Abram L. Cabell, Terre Haute; secretary, Dr. Jeremiah Jackson, Marion; treasurer, Charles Chavis, Indianapolis, and member of the executive committee, Dr. William T. Thomas, Marion.

August Diseases and Death.—During August diarrhea was the most prevalent disease, followed in order by typhoid fever, cholera infantum, cholera morbus and dysentery. Diarrheal diseases, under 5 years of age, caused 405 deaths; tuberculosis, 290; violence, 220; cancer, 145; pneumonia, 63; and influenza, 9. The total number of deaths reported was 2,901, equivalent to an annual death rate of 12.5 per 1,000; in the corresponding month of last year 3,290 deaths were reported, equivalent to an annual rate of 14.8 per 1,000.

Personal.—Dr. Perry Woolery, Heltonville, has recovered from the serious operation which necessitated his staying in a Louisville hospital for several weeks, and has resumed practice.——Dr. J. Thomas Kime, Petersburg, who recently underwent operation for appendicitis at the Evansville Sanitarium, has recovered, and left for his home September 16.——Dr. G. W. H. Kemper, Muncie, has been elected president of the Wilder Brigade.——Dr. Wilhelm T. Von Knappe, Vincennes, who was seriously injured several weeks ago, has recovered and resumed practice.——Dr. Frank J. Spilman, Jr., Connersville, sailed for Europe October 1.

Opposes Contract Practice.—At the last business meeting of the Vigo County Medical Society, the following resolution was adopted: "Any Lodge, Fraternal Order, Social Society, Mutual Protective Association Practice, wherein unlimited service for a fixed and limited compensation are required, shall not be permissible by any member of the Vigo County Medical Society, and any member engaging in such contract practice after Jan. 1, 1909, shall forfeit his membership in this society." At the next meeting a similar resolution is to be introduced prohibiting members from accepting contracts with corporations, in order to make railroads, street-car companies and shops pay the usual fee for services rendered instead of a pass in lieu of a salary.

KENTUCKY.

State Society Meeting.—The fifty-third session of the Kentucky State Medical Association was adjourned September 25 with the following officers elected for the ensuing year: Dr. Isaac A. Shirley, Winchester, president; Drs. Martin F. Coomes, Louisville; Benjamin F. Parrish, Midway, and James C. Carrick, Lexington, vice-presidents; Dr. Arthur T. McCormack, Bowling Green, secretary (re-elected); and Dr. William B. McClure, Lexington, treasurer (re-elected). The association inaugurated a medical defense department to undertake the defense of malpractice suits brought against its members, and the following committee was chosen: Drs. John J. Moren, Louisville, ten years; Robert C. McChord, Lebanon, eight years; James W. Kincaid, Catlettsburg, six years; Thomas C. Holloway, Lexington, four years; and William W. Anderson, Newport, for two years. The association endorsed the amalgamation of the medical colleges of Louisville. Dr. William Bailey was appointed special lecturer to appear before the classes of the University of Louisville to urge the graduates to join their local county societies. A resolution was passed asking the legislature to fix the minimum school age for children at 8 years instead of 6 years. Kindergarten work was excepted from this resolution. Drs. William W. Richmond, Clinton, and Arthur T. McCormack, Bowling Green, were chosen delegates to the American Medical Association. The next meeting of the association will be held in Louisville.

LOUISIANA.

Death Rate Low. The death rate of New Orleans this summer has been very low, that for the whites reaching the low point of 10.48 per 1,000 per annum for several consecutive weeks.

Society Meetings.—At a meeting held in Covington, July 23, with the assistance of Dr. E. Denegre Martin, president of the state medical association, the St. Tammany Parish Medical Society was organized with the following officers: President, Dr. George R. Tolson, Covington; vice-president, Dr. Ruffin B. Paine, Mandeville; secretary, Dr. James F. Pigott, Covington; and treasurer, Dr. Pfau R. Outlaw, Slidell.——The physicians of Shreveport, at a meeting held August 18, organized the Physicians and Surgeons' Club of Shreveport, with a charter membership of 30.

Personal.—Drs. James F. Pigott and Bascom B. Warren are the medical members of the recently appointed board of health of Covington.——Drs. Willoughbye, Kittridge, Fulton, Rogers and Thomas B. Pugh have been elected members of the board of health of Napoleonville.——Dr. Gustave Mann, newly ap pointed professor of physiology and histology in the Medical Department of the Tulane University, New Orleans, has arrived at his post of duty. Dr Andrew S. Reisor has succeeded Dr. J. Ashton Blanchard as a member of the Shreveport board of health Dr. Blanchard leaves for Europe this month.

MARYLAND.

Hospital Notes. The Italian Hospital, Baltimore, has been ordered closed by the health department, because it has not been authorized by the city ordinance and for other reasons

Osler on Leave of Absence.—Notice has been received at Baltimore that Dr. William Osler has received leave of absence of one year from Oxford University, which he will spend in travel on the continent of Europe.

The Death List.—During the week ended September 26, tuberculosis caused 25 deaths in Baltimore; nephritis, 17, heart diseases, 12; pneumonia, 10; typhoid fever, 8; and cancer 6. The total mortality for the week was 175.

Personal.—Dr. William P. Spratling will reach Baltimore from Sonyea, N Y, October 5.——Dr Victor C Cullen has been elected assistant to the medical superintendent of the Maryland Tuberculosis Sanatorium——Dr. Benjamin Whiteley, Catonsville, is reported to be seriously ill in the Union Protestant Infirmary, Baltimore

Sanitary Inspectors to be Appointed.—In compliance with the request of social workers interested in the tenement-house reform, the health commissioner of Baltimore has made a requisition for $2,000 for the needed inspectors to enforce the new building code relating to the number of persons sleeping in a room.

Colleges Open.—The Woman's Medical College opened October 1, with two changes in the faculty: Dr. Carroll D Partridge was elected lecturer on chemistry, and Dr. George W. H. Hemmeter lecturer on physiology.——Baltimore Medical College opened September 21, with an address by Dr. Robert W. Johnson——The University of Maryland Department of Medicine opened October 1, and the College of Physicians and Surgeons will open October 5.

Illegal Practitioners.—Dr J H. Nauzette, Hagerstown, convicted of practicing as a physician without being registered, was fined $100 and costs the sentence later being suspended on condition that the accused and his Indian show leave the county at once.—— William G. Thomason, Baltimore, was arrested September 18, and committed to jail in default of $1,000 bail, on the charge of practicing medicine without a license——Aristides W. Giampetro, proprietor of a sanitarium at Wallbrook, Baltimore, charged with illegal practice of medicine, is said to have been found guilty, September 22, and to have been fined $50.

MISSOURI.

Charges Sustained. The board of censors of the St. Louis Medical Society are said to have found that the charges preferred against Dr Julius F. Menestrina by Dr. Malvern B Clopton, June 11, 1908, were sustained, and fixed his punishment at suspension from the society for one year from June 22, 1908

Large Bill Against Brewer.—The administrators of the estate of the late Dr. Robert Luedeking, St Louis, in settling up his estate, discovered that he had not sent a bill for his services to Adolphus Busch, the brewer, for several years and, therefore, sent Mr. Busch a bill for $55 000. Mr. Busch is said to have tendered $35 000 in payment which was not accepted

Fined for Practicing Medicine Without a License.—In the second division of the criminal court of Kansas City, September 10, C. H Carson is said to have been found guilty of practicing medicine without a license and to have been fined $500. His defense was that he registered as a physician in 1880 under the law of 1874, and that he should not be required to register under the present laws He says that he will appeal the case.

Exonerated.—In the case of Drs Walter B Dorsett, Henry E Ferrell and other members of the St. Louis Medical Society, whose names appeared on a card designated as "Directory of the West End Business Men's Association," which card was displayed in shops and other places, the board of censors held that this publication did not constitute a matter demanding formal punishment by the society, as there was therein no misconduct as advised in the Principles of Ethics of the American Medical Association and the by laws of the society.

NEW JERSEY.

Personal. Dr. Abram A Lydecker has been selected medical inspector of the Borough of Haledon for three years, vice Dr. Orisley B. Duncan, resigned.——Dr. Ellsmore Stites, health officer of Bridgeton for several years, has resigned.

Tuberculosis Notes.—By the efforts of Dr John A. Cotton, recently appointed medical director for the State Hospital for the Insane, Trenton, a tuberculosis shack will be built for the use of patients in that institution.——Word has been received in Orange from the New Jersey Tuberculosis Association, that in the future only four physicians in the state will be authorized to examine applicants for the State Tuberculosis Sanatorium Glen Gardner instead of about 200 as before

Vital Statistics for August.—During the week ended August 15, 3,209 deaths were reported to the Bureau of Vital Statistics. There were 1,081 deaths of infants under 1 year; 274 between 1 and 5 years, and 686 deaths of individuals 60 years old and over. The deaths from infantile diarrhea during the month were 727; tuberculosis, 326; diseases of the nervous system, 285; diseases of the circulatory system, 252; diseases of the digestive system, 249; from nephritis, 189; and cancer, 132. There was a marked decrease in deaths from communicable diseases, of which 25 were reported from diphtheria; 21 from scarlet fever; 17 from whooping cough; and 10 from measles; in each instance much below the average for the previous month, and for the previous twelve years.

NEW YORK.

College Opens. Albany Medical College was formally opened September 22, the introductory address being delivered by Dr James P Boyd on "Recent Advances in Obstetrics."

Scarlet Fever in Buffalo.—More than 65 cases of scarlet fever have been reported by the medical school inspectors of Buffalo since the opening of the school year.

Personal.—Dr John C Young, Cuba, was thrown from his carriage in a collision with another team recently, and seriously injured. Dr. John P Wilson, Poughkeepsie, who has been ill with recurrent nervous disease, is said to be improving.

District Society Meeting.—The third annual meeting of the Eighth District Branch of the Medical Society of the State of New York was held in Batavia September 22 and 23, and the following officers were elected: President, Dr. Emerson E Snow, Batavia (re-elected); vice-presidents, Drs. Edward Munson, Medina, and Thomas H. McKee, Buffalo; secretary, Dr Lee M. Francis, Buffalo (re-elected); and treasurer, Dr Charles A. Wall, Buffalo (re elected).

Plan University Convocation.—The program has been completed for the fortieth annual convocation of the University of the State of New York to be held in the Senate Chamber of the Capitol, Albany, October 22-24. The main topics to be dealt with are Health and Hygiene in the Public Schools," particularly from two points of view: First, the need of more attention to health in the public schools; and second, how far school authorities should assume the responsibility for the physical condition of the pupils.

Hospital Notes.—The treasurer of Tarrytown Hospital has received a check for $25,000 from John D Rockefeller for the building fund, conditioned on the raising of double that sum by the hospital.——The board of supervisors of Rensselaer County has appropriated $25,000 for the erection of a hospital for advanced cases of tuberculosis.——Dr. Charles G. Wagner, superintendent of the Binghamton State Hospital for Insane, has instituted a convalescent camp on the hospital grounds——The Central Federation of Labor of Albany dedicated its tuberculosis pavilion August 29 with a parade by the labor unions of Albany, Troy, Cohoes and Schenectady, and exercises at the pavilion in Kenwood Heights.

New York City.

Ambulance Overturned.—An ambulance belonging to the Williamsburg Hospital was struck by a surface car and ambulance surgeons Harold Barns and Walter Burley, and the driver were severely injured.

Raid Cocain Dispensaries.—Through the activity of the health department inspectors eight young men and women, charged with distributing cocain, were arraigned and held for further examination. Cocain said to be worth $1,000 was found in their apartments

Bequests to Charity.—The will of the late Winfield Tucker gives $22 500 to the Presbyterian Hospital to endow three beds: $5.000 to the New York Post-Graduate Medical School and Hospital: $5.000 to the New York Throat, Nose and Lung Hospital. and $5.000 to the Home of Rest for Consumptives at Inwood on the Hudson.

Antinoise Order Nullified by Magistrate.—After discharging four peddlers who had been arrested for noisily hawking their wares, Magistrate Kernochan declared that while the policemen were justified in making arrests of this class, he would not hold such persons unless the citizens who flooded the police stations with letters came in person to make complaint.

Plans New Tuberculosis Hospital.—The architect for the Trustees of Bellevue and Allied Hospitals, Raymond F. Almirall, has filed plans for a large hospital for patients suffering from tuberculosis, to be built on Blackwell's Island as an annex to the Metropolitan Hospital. It will have a roof garden 291 feet long, with a large solarium at either end. The estimated cost is $250,000.

New Hospital.—Plans have been filed with the building superintendent for the main hospital buildings and isolation annex of the Rockefeller Institute for Medical Research, to be erected at a cost of $400.000 The main building is to be a seven-story structure, and the isolation ward will be a two story building connected with the main building by bridges of steel and iron.

No Mystery in Medicine.—The College of Physicians and Surgeons held its opening exercises September 23. Dean Lambert, Acting President Burgess and Professor Starr made short addresses. Dr. Starr said that this was the age of publicity: there was no longer any mystery in science. It was the large part of the duty of the physician to make knowledge available to others. He urged the establishment of municipal laboratories.

Need Facilities for Alcoholics and Insane.—The last annual report of Bellevue and the Allied Hospitals calls attention to the need of provisions for the treatment of drunkards and believes that this treatment should be out-of-doors. It is hoped that the bill which is to be introduced into the next legislature providing for a farm labor colony will become a law, as it is most inconvenient to permit men to ruin themselves with drink, if it can be avoided.

The Carpenter Lecture.—The Wesley M. Carpenter lecture on "Tuberculosis of the Heart, Blood Vessels and Lymphatics" will be given by Dr. Andres Martinez-Vargas of Barcelona, Spain, October 8, at 8:30 p. m., at the New York Academy of Medicine. Following the lecture there will be a reception by the President and Fellows of the academy, and the Committee on Entertainment of the National Congress on Tuberculosis, to the visiting members and delegates of the congress.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 19, 531 cases of tuberculosis, with 140 deaths; 206 cases of diphtheria, with 28 deaths; 103 cases of measles, with 5 deaths; 112 cases of scarlet fever, with 6 deaths; 168 cases of typhoid fever, with 18 deaths; 23 cases of whooping cough, with 5 deaths; 8 cases of cerebrospinal meningitis, with 6 deaths: and 9 cases of varicella, a total of 1.161 cases and 208 deaths.

Sixteen Years of Straus Milk Dispensary Ends.—Nathan Straus has completed the sixteenth year of the work of dispensing pasteurized milk. All former records have been broken. The output of seventeen depots was 4,167.675 bottles, which is over a million more than last year; and 1.411.017 glasses, which exceeds former records by more than 200.000 glasses. These figures mean that nearly 2.500 babies have been fed daily on this milk. Several stations will be kept open during the winter.

Tri-Professional Society Meeting.—At the annual meeting of the Tri-Professional Medical Society of New York, held September 15, the following officers were elected: President, Dr. J. Monroe Liebermann (re-elected); vice-presidents: Drs. G. Morgan Muren (re-elected), and George B. McAuliffe: secretary, Dr. Walter T. Dannreuther: and treasurer, Dr. Daniel E. S. Coleman (re-elected): and members of the executive committee for three years, Drs. George M. MacKee, Guy B. Stearns and Joseph Gutfreund. The society unanimously voted to censure Governor Hughes for signing the osteopath bill.

Good Conditions Prevail at Bellevue.—The rumor that the trustees of Bellevue and Allied Hospitals were considering the resignation of Dr. Armstrong, which grew out of the extended leave of absence granted him because of ill health, seems to be unfounded, and the report of the Commissioner of the First Judicial District on the administration of the affairs of the institution, called special attention to the enormous amount and variety of work the hospital was doing, and to the cleanliness and good conditions that prevail, notwithstanding the old building and disadvantages of location. The excellent discipline of the nursing staff was also commended

Steam and Electric Roads Kill Many.—The first annual report of the Public Service Commission, second district, shows that the ratio of passengers killed to every 1.000.000 carried by steam railroads was 24.2, and the ratio of injured to every 1.000.000 carried was 246.2. The total number killed during the year was 1.092, an increase over the previous year of 156. The electric roads of this district reported that the ratio of passengers killed to every 1.000.000 carried was 5.98, and the ratio of passengers injured to every 1.000.000 carried was 104.9. The total number of persons killed was 95, an increase over the previous year of 21. In all there were 1.287 persons killed in this district by these roads.

NORTH CAROLINA.

Diphtheria Epidemic.—Diphtheria is so prevalent in West Durham that the sessions of Sunday schools in the city have been closed by direction of the county officers.

Laboratory Equipped.—Dr. C. A. Shore, state biologist, has fully equipped the state laboratory of hygiene and is prepared to treat patients bitten, or supposed to have been bitten, by rabid animals.

OHIO.

College Opens.—The Starling-Ohio Medical College, Columbus, opened for its second year September 22. Dr. George M. Waters, dean of the college, delivered the opening address.

Personal.—Dr. and Mrs. R. M. Manley, Ravenna, sailed for Europe, September 29.——Dr. E. H. Rorick, Fayette, has been re-elected superintendent of the Athens State Hospital for the Insane.——Dr. John L. McLeish has resigned as physician at the Ohio State Hospital for the Insane, Athens.——Dr. William L. Dick has been elected medical inspector of Columbus, vice Dr. Herbert M. Platter, resigned.——Dr. Charles A. Kefauver, Stoutsville, has gone to Marion, where he will enter a sanitarium to obtain much-needed rest.

Communicable Diseases.—Seventeen cases of scarlet fever were reported to the health officer of Cincinnati during the week ended September 12.——Diphtheria is reported in Gustavus and Wildare, and the churches and schools have been ordered closed on account of the prevalence of the disease.——There is said to be 30 cases of smallpox in St. Francis Orphans' Home near Tiffin. The patients have been isolated and the home is under strict quarantine.

Society Meetings.—Miami Valley Alumnal Association of Starling Medical College was organized at Dayton, September 12, Dr. William E. Allaman being elected president, and Dr. John W. Millette, secretary.——At the annual meeting of the West End Medical Society of Cincinnati, September 17, Dr. Charles C. Agin was re-elected president: Dr. William D. Haines, vice-president; Dr. Sebastian A. Allgaier, secretary, and Dr. Arthur C. Bauer, treasurer.

Staff of Specialists for Penitentiary.—Dr. Arthur G. Helmick, physician for the Ohio Penitentiary, Columbus, has announced the following list of specialists to aid him in his work among the convicts: Drs. John H. J. Upham and Leslie M. Lisle, internal medicine: Dr. T. Alfred Fletcher, surgery; Dr. William D. Deuschle, mental and nervous diseases; Dr. John D. Dunham, diseases of the stomach; Dr. Wells Teachnor, lower intestinal diseases; Dr. Charles J. Shepard, skin diseases: Dr. Starling S. Wilcox, genitourinary diseases: Dr. James M. Phillips, pathologist. Dr. Hugh R. Garrett has been appointed day physician, and Dr. Dana W. Collison, night physician.

PENNSYLVANIA.

Correction.—The State Hospital for the Criminal Insane is at Farview and not Fairview. Two buildings and not one are under construction, and they are to be two stories in height and not six, and the highest building of the group is the administration building, which is to be three stories in height.

Tuberculin Test Upheld.—Judge Prather decided September 14 the injunction case brought by dairymen to prevent the Meadville board of health from requiring the tuberculin test as a guarantee of wholesome milk. The decision dissolves the preliminary injunction, sustains on every point the authority of the board of health and places the costs of the case on the plaintiffs.

Philadelphia.

College Opening.—The opening exercises of the fifty-ninth session of the Woman's Medical College were held in the college hall on the afternoon of September 23. Dr. Clara Marshall delivered the address.

Weekly Health Talk.—Dr. Joseph S. Neff, director of public health and charities, summarizes the infant mortality for the past summer and declares that the distribution of literature by the Modified Milk Society was an important factor in decreasing the infant death rate. The decrease in mortality during last August as compared with August of 1907 for children under one year of age was 150, or 17.7 per cent., and 77 less children, or 15.7 per cent., under 2 years of age died of enteritis than in the same month of last year.

Personal.—Dr. Henry C. Deaver has been appointed professor of the principles and practice of surgery and clinical surgery at the Woman's Medical College, vice Dr. William L Rodman, resigned. ——Dr. William C. Posey has returned from Europe.——Dr. Ralph Pemberton, who recently underwent operation for appendicitis at the German Hospital, is rapidly recovering.——Dr. Harriet L. Hartley has been promoted to clinical professor of surgery, Dr. Randall C. Rosenberger has been appointed lecturer on hygiene, and Dr. Martha Tracey, assistant professor of chemistry, at the Woman's Medical College.——Dr. George H. Kobler is confined to his home as a result of injuries sustained in a trolley car accident.——Dr. George M. Boyd has returned from Europe.

Health Report.- The total number of deaths reported for the week ending September 26 reached 399, including 205 males and 194 females. This is a decrease of 26 from the previous week, and a decrease of 8 from the corresponding week of last year The principal causes of death were: Typhoid fever, 13; scarlet fever, 3; pertussis, 4; diphtheria, 4; consumption, 57; cancer, 22; diabetes, 5; apoplexy, 6; paralysis, 8; heart disease, 41; acute respiratory disease, 26; gastritis, 5; appendicitis, 3; enteritis, 3; cirrhosis of the liver, 9; acute nephritis, 5; nephritis, 25; premature birth, 9; congenital debility, 5; senility, 7; suicide 4; accidents, 14, and marasmus, 3. There were 197 cases of contagious disease reported, with 21 deaths, as compared with 161 cases and 19 deaths reported in the preceding week.

VERMONT.

Change of Date. The secretary of the Vermont State Medical Society announces that it has become necessary for the executive committee to postpone the annual meeting of the society, which was to have been held in Rutland October 15 and 16, for one week, that is, to October 22 and 23, on account of the conflict of the original dates with another convention in Rutland.

WISCONSIN.

College Opening. Milwaukee Medical College, now the Medical Department of Marquette University, will open for the school year October 6. Dr. Walter H. Neilson will deliver the address of the evening on "Methods of Education in Europe, Particularly in Medical Colleges."

Hospital Notes.—Two beds have been endowed in Trinity Hospital, Milwaukee, by the faculty of the Medical Department of Marquette University.——Physicians of Madison are planning to erect within the next year a hospital to cost $75,000, to be in charge of the Sisters of Mercy of St. Joseph's Convent, Janesville.

Epidemic of Spinal Meningitis.—Eau Claire reports an epidemic of spinal meningitis. During the last seven weeks there have been fifty cases and fourteen deaths in the city, in addition to those which have occurred in Eau Claire and Chippewa counties. All physicians in the district have been requested to report every case of meningitis or of motor paralysis, however transient, to the secretary of the Eau Claire County Medical Society, who has prepared and distributed blanks for that purpose.——On account of the prevalence of spinal disease, the opening of schools in Eau Claire was delayed.

Personal.—Dr. Ernest L. Bullard, Milwaukee, formerly superintendent of the State Hospital for the Insane, has moved to Rockville, Md., where he has opened a sanitarium for nervous and mental diseases.——Dr. James M. Vander Ven, Cedar Grove, was seriously injured September 10, by a barn door which fell on him.——Dr. Jacob P. Lunn, Beloit, has been appointed assistant to Dr. John R. McDill, surgeon-in-chief of the St. Paul's Hospital, Manila, P. I.——Dr. Floyd W. Alpin, Waukesha, has started for Europe.——In a fire which devastated Fond du Lac, September 25, the house of Dr. Llewellyn A. Bishop was destroyed.

WYOMING.

State Medical Society Meeting.—At the annual meeting of the Wyoming State Medical Society, held in Sheridan, August 28 and 29, the following officers were elected: President, Dr. George L. Strader, Cheyenne; vice-presidents, Drs. Robert C. Knode, Sundance; Neil D. Nelson, Shoshoni, and S. W. Johnson, Newcastle; secretary, Dr. John L. Bostwick, Hulett; treasurer, Dr. William H. Roberts, Sheridan; delegate to the American Medical Association, Dr. James J. Monahan, Encampment; and alternate, Dr. T. E. Marshall, Sheridan.

GENERAL.

Yellow Fever in Cuba.—On August 28 a positive diagnosis of a case of yellow fever was made at Firmeza.——On September 8 the sanitary department confirmed the report of a fatal case of yellow fever at Santiago; the patient came from Antilla, Oriente province. No yellow fever has been reported from Matanzas since December.

Military Surgeons to Meet.—The seventeenth annual meeting of the Association of Military Surgeons of the United States is to be held in Atlanta, October 13-16, under the presidency of Assistant Surgeon-General George Tully Vaughn, P. H. & M.-H. Service. The meetings will be held in the assembly room of the Piedmont Hotel.

Burlington Surgeons Assemble.—The Association of Surgeons of the Burlington System held its annual session in Hot Springs, S. D., September 15 and 16. The following officers were re-elected: President, Dr. Theodore P. Livingston, Plattsmouth, Neb.; vice-presidents, Drs. Byron B. Davis, Omaha, and Charles E. Cook, Mendota, Ill.; secretary, Dr. George F. Roehrig, Denver; and treasurer, Dr. John P. Savage, Sioux City, Iowa. The session for 1909 will be held in Kansas City, Mo.

Skin Specialists Meet.—The American Dermatological Association held its annual meeting in Annapolis and Baltimore, Md., September 24-26. An executive session was held in Baltimore in the evening of the latter day. Dr. Caspar T. Gilchrist, Baltimore, was elected president; Dr. William A. Pusey, Chicago, vice-president; and Dr. Grover W. Wende, Buffalo, secretary treasurer (re-elected). A clinical session was held at Johns Hopkins Hospital, September 26. The association will meet next year in Philadelphia.

Cholera in Philippines.—Telegraphic reports from Manila say that for the twenty-four hours ended at 8 a. m., September 24, 36 cases of cholera had been reported; for the same period, September 25, 42 cases and 6 deaths. The small number of deaths indicates that many suspected cases are not cases of Asiatic cholera.——The formal reception of the battleship fleet has been postponed until the return of the fleet from Japan in November.——For the twenty-four hours ended at 8 a. m., September 28, there were 14 new cases and 3 deaths reported, and in the succeeding twelve hours only 10 cases were reported in Manila.

Electrotherapists Elect.—The eighteenth annual meeting of the American Electrotherapeutic Association was held in New York City, September 22-24, when the following officers were elected: President, Dr. Edward C. Titus, New York City; vice-presidents, Drs. William D. McFee, Haverhill, Mass., and Thomas D. Crothers, Hartford, Conn.; secretary, Dr. John W. Travell, New York City; treasurer, Dr. Richard J. Nunn, Savannah, Ga. (re-elected); and executive council, Drs. Morris W. Brinkman, New York City; Charles R. Dickson, Toronto; W. Benham Snow, New York City; Fred H. Morse, Boston; Herbert F. Pitcher, Haverhill, Mass.; and Francis B. Bishop, Washington, D C.

Mississippi Valley Association Meeting.—The Mississippi Valley Medical Association will hold its thirty-fourth annual meeting in Louisville, October 13-15, under the presidency of Dr. Arthur R. Elliott, Chicago. All sessions will be held in the Seelbach Hotel. The address in medicine is to be given by Dr. George Dock, formerly of the University of Michigan, now of the Tulane University of Louisiana, on "Tropical Diseases of the Mississippi Valley," and the address in surgery by Dr. Arthur Dean Bevan, Chicago, on "Surgery of the Kidney." Among the notable exercises of the meeting is to be a symposium on diseases of the pancreas, which is to be held at a joint meeting of the medical and surgical sections. To this symposium Dr. Alfred C. Croftan, Chicago, contributes a paper on "Pancreatic Diabetes and Its Relation to Gallstones"; Dr. William D. Haggard, Nashville, one on "Etiology and Pathogenesis of Pancreatitis": Dr. William J. Mayo, Rochester, Minn., one on "Surgical Treatment of Pancreatitis"; Dr. J. Henry Schroeder, Cincinnati, one on "Physiology and Chemical Pathology of the Pancreas in Pancreatitis," and Dr. Albert J. Ochsner, Chicago, one on "Diagnosis of Pancreatitis."

National and District Society Elections.—At the sixteenth annual meeting of the Tri-State Medical Society of Iowa, Illinois and Missouri, held in Ottumwa, Iowa, September 9 and 10, Dr. Emil Ries, Chicago, was elected president; Dr. John F. Herrick, Ottumwa, vice president for Iowa; Dr. Joseph E. Chambers, St. Louis, vice-president for Missouri; and Dr. Channing W. Barrett, Chicago, vice-president for Illinois; Dr. Frank B. Dorsey, Keokuk, Iowa, secretary; and Dr. Emory Lanphear, St. Louis, treasurer. The next meeting will be held in Quincy, Ill.——The American Academy of Ophthalmology and Otolaryngology, at its thirteenth annual meeting in Cleveland, August 27-29, elected Dr. Otto J. Stein, Chicago, president; and Dr. Secord H. Large, Cleveland, treasurer. Dr. George F. Suker, Chicago, holds over as secretary.——At the sixth annual meeting of the Cumberland Valley Medical Association, held in Mount Holly Springs, Pa., September 3, the following officers were elected: Dr. Theodore H. Weagly, Marion, Pa., president; Drs. J. Burns Amberson, Waynesboro, Pa., Henry R. Douglas, Newville, Pa., and J. Hubert Wade, Boonsboro, Md., vice-presidents; Dr. John J. Coffman, Scotland, Pa., secretary; Drs. Henry C. Devilbiss, Chambersburg, Pa., D. C. R. Miller, Washington County, and Edward R. Plank, Carlisle, Pa., assistant secretaries; and Dr. John J. Koser, Shippensburg, Pa., treasurer.——The Medical Society of the Missouri Valley held its twenty-first annual meeting in Council Bluffs, Iowa, September 3 and 4, and elected the following officers: President, Dr. Charles B. Hardin, Kansas City, Mo.; vice-presidents, Drs. Andrew B. Somers, Omaha, and John M. Bell, St. Joseph, Mo.; secretary, Dr. Charles Wood Fassett, St. Joseph, Mo. (re-elected); and treasurer, Dr. Thomas B. Lacey, Council Bluffs, Iowa. St. Joseph, Mo., was selected as the place for the next meeting.——At the twenty-seventh annual meeting of the Association of Surgeons of the Pennsylvania Lines, East and West, held in Pittsburg, September 10, Dr. Adam M. Beers, Newcomerstown, Ohio, was elected president; and Dr. Stewart L. McCurdy, Pittsburg, treasurer. It was decided to hold the next annual meeting in Columbus, Ohio.——The physicians in the Woman's Relief Corps organized a society known as the National Medical Staff, at the recent meeting of the G. A. R. in Toledo, with the following officers: President, Dr. Millie J. Chapman, Pittsburg; vice-president, Dr. Emily C. Willoughby, Toledo; secretary-treasurer, Dr. Alta K. Boram, Brimfield, Ind.; and historian, Dr. Orpha D. Bruce, Tampa, Fla.

CANADA.

Illegal Practitioner Fined.—Alexander J. Brown, a medical student charged with practicing medicine without being duly licensed, is said to have been fined $30 and costs in the Toronto police court, August 11, the defendant pleading guilty.

Society Meeting.—At the annual meeting of the Medical Association for the Districts of Ottawa and Quebec, held in Hull, August 27, the following officers were elected: Dr. Edmond S. Aubrey, Hull, president (re-elected); Drs. Fred W. Church, Aylmer; and Alexander Sineck, Gracefield, vice-presidents; and Dr. J. E. Damour, Papineauville, secretary; and Dr. Joseph Robillard, Thurso, member of executive committee.

Consumption in Newfoundland.—The authorities of Newfoundland are becoming genuinely alarmed at the spread of tuberculosis in that island. The disease is steadily on the increase. In 1901 there were 654 deaths from it; in 1902, 710, while in 1906 the figures had gone up to 933. At a recent convention of school teachers of the island, instruction was given by experts as to the best methods of preventing the spread of the disease.

The White Plague War in Montreal.—Montreal will hold during the first two weeks in November a tuberculosis exhibition for educating the people of that city in the most recent methods of combating this disease. That education is urgently needed is seen from the fact that between 800 and 1,000 people die in Montreal each year from tuberculosis, and that about 5,000 persons are affected with the disease. The Montreal Tuberculosis League is asking a grant from the city council in aid of the exhibition.

University Staff Changes.—The board of governors of the University of Toronto announces the following changes in the staff: Physical director and secretary of the athletic association, J. W. Barton, M.D.; demonstrator in physiology, F. R. Miller, M.B.; demonstrators in pathology, G. Silverthorn, M.B., C. J. Wagner, M.B., W. H. Pepler, M.D., H. C. Parsons, M.D., F. C. Clarkson, M.B., G. W. Howland, M.B., H. S. Hutchinson, M.B., B. O'Reilly, M.D., J. Graham, M.B., W. S. Lemon, M.B.; demonstrators in clinical surgery, S. Silverthorn, M.B., F. S. Ryerson, M.D., W. J. O. Malloch, M.B., W. W. Jones, M.B., S. H. Westman, M.B., W. A. Scott, M.B., M. H. V. Cameron, M.B.; demonstrator in dermatology, D. King Smith, M.B.; demonstrators in gynecology, F. W. Marlow, M.D., and Helen MacMurchy, M.B.; demonstrator in obstetrics, J. A. Kinnear, M.D., and demonstrators in clinical medicine, D. McGillivray, M.B., G. W. Howland, M.B., T. D. Archibald, M.B., and W. J. McCollum, M.B.

FOREIGN.

A Rest-Cure Ship.—The local medical society of Zoppot, on the Baltic, fitted out this summer a special "rest-cure ship" to cruise daily in the Danzig bay. There are accommodations for 36 persons besides the physicians and attendants. It is especially designed for convalescents, neurasthenics and persons suffering from asthma.

Esperanto in the Red Cross Service.—In preparation for the Esperanto Congress recently held at Dresden, the local branch of the Red Cross Society trained a field hospital staff in Esperanto. None of the staff was familiar with any language but German. Ten two-hour lessons in the course of five weeks rendered them able to converse in Esperanto in the line of their duties, at least, with all comers.

Centennial of Danish Medical Quarterly.—It is proposed to celebrate this year the hundredth anniversary of the foundation of the *Bibliothek for Læger* by issuing a special *Festschrift*. The publishers had about concluded that the journal had outlived its usefulness, as medicine hastens on with such strides that a quarterly is left far behind, and it is hard work even for a weekly to keep pace with it. They finally applied to the *Hospitalstidende*, the Copenhagen weekly which is regularly indexed in our Current Medical Literature Department, and proposed to the editors of the *Hospitalstidende* that they save the *Bibliothek for Læger* from suspension and undertake its publication after this year, the quarterly to be, as heretofore financially backed by the National Society for Classical Literature (the *Classenske Literaturselskab*). The proposal was accepted, and after this year it will appear under the auspices of the *Hospitalstidende*.

Reports on Cholera.—It is reported by telegraph from St. Petersburg that during the twenty-four hours ended at noon, September 24, 369 cases and 172 deaths were reported, and on September 25 that the epidemic had reached its maximum. The report for the twenty-four hours ended at noon, September 26, showed an improvement, as only 312 new cases were reported and 153 deaths. For the next twenty-four hours the number of new cases was still further reduced to 268, and the number of deaths to 143, and on September 28 cholera was reported still to decrease, the number of new cases being 263 and deaths 102. Since the beginning of this epidemic 15,683 cases of Asiatic cholera have been reported in Russia, with 7,102 deaths. In St. Petersburg since September 8 there have been 4,931 cases and 1,875 deaths.——Quarantine measures have been adopted by various governments such as against vessels arriving in Belgium from Russian-Baltic ports; against arrivals in Egypt from Taganrog; against travelers from Russia at the Persian frontier, and against vessels from Russian ports, etc.——Cholera is said to have spread from Russian Poland to Galicia, province of Austro-Hungary.

International Congress of Ophthalmology.—The Ninth International Congress of Ophthalmology is to be held at Naples, Italy, April 2 to 7, 1909. Prof. A. Angelucci is the president of the organization committee, and he announces that six gold medals will be awarded to the authors of the six most valuable, as yet unpublished, articles on the subject of ophthalmology. The articles should be typewritten and be received by the committee before November 1. These medals are memorials to de Vincentiis, and are given to encourage young students of ophthalmology. Four days before the opening of the congress, the International Congress of Typhlology will convene in the same city to discuss questions concerning blindness and the amelioration of the condition of the blind. There will be a special discussion of the question whether it is advisable in the treatment of patients afflicted with diseases immediately conducive to blindness to give them correct information as to the precarious condition of their sight and such instruction as may be necessary to them when blindness overtakes them. The corresponding members in this country for the ophthalmologic congress are Dr. G. E. de

Schweinitz, 175 Walnut Street, Philadelphia, and Dr. H. Knapp, 26 West Fortieth Street, New York. There is to be an exhibition in connection with the congress, both practical and historical. Address: R. Clinica Oculistica in S. Andrea delle Dame, Naples.

Free Information Bureaus for Physicians Abroad.—An information bureau at Paris in the Sorbonne is open all the year around from 10 to 12 and from 2 to 5, with attendants able to speak English, French, Russian, German and Spanish, and to supply information for persons seeking opportunities for scientific study or research. The subjects are classified so that no time is wasted. Thousands of different catalogues have been compiled of books, documents, lectures, institutions, specialties and things in Paris which will be of particular interest to visitors of different nationalities. The bureau is in charge of Dr. R. Blondel. It was opened in 1903 and was described in The Journal, March 5, 1904, page 660. Its official name is the *Bureau de Renseignements Scientifiques*. A similar information bureau was opened at Berlin about two years ago, as mentioned in The Journal, March 9, 1907, page 887. It is installed in the Kaiserin Friedrich-Haus, the center for the official postgraduate lecture system, Luisenplatz 2-4, and is known as the *Auskunftei*. No charges are made for services either verbal or written, at either of these information bureaus. A correspondent remarks about the Paris bureau: "It is quite in line with the cordial courtesy which in my experience the Paris physicians are so ready to show to foreign members of the profession, and I believe that many American medical men may be glad to know of this bureau and to avail themselves of its services."

LONDON LETTER.

(From Our Regular Correspondent.)

London, Sept. 19, 1908.

Application of Zoologic Laws to Man.

At the annual meeting of the British Association for the Advancement of Science, held in Dublin, Prof. William Ridgeway gave a presidential address to the anthropologic section on "The Application of Zoologic Laws to Man." He pointed out that the chief errors in our social and educational legislation were due mainly to the refusal to look on ourselves as controlled by the same laws as the rest of the animal kingdom. He contended that the legislator should, as far as possible, conform to the principles of the stockbreeder, but the statesmen of both parties adopted the opposite policy. The children of the working classes were educated at the expense of the state, the offspring of wastrels were given free meals, and already there were demands that such should be clothed at the expense of the ratepayers. The heavy burden of taxation entailed by this policy, falling, as it did, with special weight on the middle classes, rendered it more difficult each year for the young people in that class to marry before 30 because of the expense of bringing up families. In short, our legislators were selecting to continue the race the most unfit physically and morally. He brought forward evidence to show that not more than 5 or 6 per cent. of the children of the working classes possess at the age of 16 the same amount of brain power as the children of the middle classes.

The Teaching of Anesthetics.

Coroner's juries in the cases in which death has occurred during an operation performed in a hospital have frequently expressed dissatisfaction at the administration of the anesthetic by house surgeons and others, instead of by the official anesthetist to the hospital. For some years Dr. Hewitt, anesthetist to the king and to St. George's Hospital, has been conducting a crusade having for its object the better teaching of the administration of anesthetics. A difficulty in achieving this aim is the fact that at most hospitals the anesthetist holds a position of inferiority to that of the other members of the staff. Anesthetists hold no seats on the medical committees or boards and are usually unrepresented on the medical school committees. Surgeons, regarding anesthetists as subordinates, are inclined to dictate to them the anesthetic to be used and to request a deeper anesthesia than the administrator may consider prudent. The result is that the post of anesthetist is regarded merely as a stepping-stone toward a better appointment. It is, therefore, held only by young men who, however excellent as administrators, are by no means experienced teachers. As a remedy for this state of affairs a hospital anesthetist suggests in the London *Times* the following remedies: 1. That the senior anesthetist, at least, of every hospital should be recognized as a member of the staff and with a seat on the committee, and that in hospitals associated with a medical school he should also be a member of the medical school committee and have a voice in the arrangement of the curriculum. 2. That a systematic course of lectures on anesthetics should be given every session at medical schools, instead of the three to six customary special lectures a year, and that attendance on the full course should be made compulsory. 3. That students should be compelled to hold appointments as anesthetist's assistants for at least three months.

At St. George's Hospital a special post of "physician-anesthetist" has been created for Dr. Hewitt and he is a member of the school committee, but this is the only hospital where such conditions exist.

The Medical Inspection of School Children.

The board of education has issued an important circular on problems arising out of the recent Education Act, which made a new departure in the British system of elementary education and greatly increased the responsibilities of the educational authorities with regard to caring for the health of children. There is to be a school medical officer in every education area who will be at the head of a service consisting of doctors, nurses, attendance officers and teachers. He and his staff are not only to inspect the children, but are to present to the appropriate authority a statement of any improvements which they think should be introduced into the school buildings and surroundings, to be forwarded by the authority, in turn, to the board of education. A school nurse will assist in the work of medical inspection and (under medical instruction) apply, or show parents how to apply, remedies for minor ailments. Such matters as the treatment of sores and minor skin diseases and minor diseases of the eye and the treatment of slight injuries from accident will fall within her scope. When medical inspection shows that glasses are necessary for the treatment of defective eyesight, inexpensive spectacles may be provided by the board free of charge. The local educational authorities may provide medical treatment for children by establishing a school clinic or by paying for treatment. They may contribute to the funds of hospitals, dispensaries and nursing institutions on terms of adequate advantage. The provisions of this circular are thus most revolutionary. Some think that in the long run they mean the municipalization of hospitals, and that within ten years London and some of the other large cities will be covered with school clinics.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, Sept. 16, 1908.

Physicians to Influence Public Opinion Through the Daily Press.

On suggestion of Dr. Kantor, Bohemja, a number of medical men connected with the daily press have recently attempted systematically to enlighten the public in regard to the relations between the medical profession and the laity. The following subjects will be treated at regular intervals in the leading papers: the doctor and the sick-benefit club (*Krankenkasse*): the state and compulsory insurance against sickness, accident and old age, so far as this militates against the interest of the profession; the "quack" cures: the nature-healers: the necessity of securing the best trained physician for the most valuable of the public treasures, man; the value of prophylaxis and public hygiene: and the necessity for notification of the existence of infectious diseases. The latter point often forms an unpleasant subject of difference between the doctor and the patient or his family. The press committee will be part of the general representative body of the *Wirthschaftliche Organization*, a young but very active medical organization, intended to unite all medical men for the purpose of raising the social standard of the profession by securing decent remuneration for the practitioner.

The Title of Specialist.

Following the lead of Germany, the public authorities in Austria have begun to turn their attention to the specialization taking place in medicine. The ministry of education has put to the representative medical councils (Aerztekammern) a series of questions looking toward a regulation of the titles adopted by many practitioners on their door-plates, which are often very large. The result of the discussion is the formulation of the following rules, which will be submitted to the profession for discussion: The title of specialist shall be permitted only to those who have followed the study of their special branches for not less than three years in a special medical hospital or under a recognized specialist. Medicine, surgery, ophthalmology, dermatology, rhino-otology, gynecology and obstetrics, neurology and pediatrics will be recognized as special branches, diseases of the nose and throat being embraced in one branch No one can be recognized as a specialist in more than one branch.

For some years the representatives of the profession have complained of the assumption by the majority of young physicians, of the titles of specialists, especially those of gynecologist and pediatrist There was said to be a deterioration in the profession due to the insufficient preparation of the young graduates It was at that time proposed that only privat docents and professors should be allowed to call themselves specialists The present state of affairs calls for regulation The enormous increase of competition in this country favors specialization, for the medical-aid societies tend to cut down the income of the general practitioner seriously, while they are prepared to pay the so called specialist at a better rate without testing his special qualifications too severely In the larger cities more than 60 per cent. of the practitioners call themselves specialists while only about 20 per cent deserve the name.

Correspondence

The Pharmacopeia and the Physician.

Norwalk, Wis, Sept. 9, 1908

To the Editor.—I obtained a copy of "The Pharmacopeia and the Physician" some time ago and I want to say that I think it the best book of its kind published It is something that every physician should have, and especially those who dispense, because of the tendency among the latter to pour from some "stock bottle" instead of making the drugs fit the particular case It should be placed in the hands of every senior medical student, as it would save many from becoming *an easy prey to "something new" in the hands of the detail man*

We were taught at college to diagnose "Any fool can prescribe," and I certainly felt like a fool when I first tried to prescribe for my patients Few ever came to me to find out what was the trouble with them, but nearly all wanted to know "What can you do for me?" I do not wish to minimize the importance of diagnosis as it is the foundation of practice but I would emphasize the lack of the teaching of therapeutics in our western medical colleges. I am not the only one who feels this way, as I have talked with men from various schools I do not think that we are taught enough about drugs and their actions

Your little book gives this in a nutshell and we can enlarge on it to suit our needs. W B Ford

Queries and Minor Notes

Anonymous Communications will not be noticed Queries for this column must be accompanied by the writer's name and address but the request of the writer not to publish name or address will be faithfully observed

ERADICATION OF HAIR

Allegheny, Pa, Sept 25 1908

To the Editor —What would be the best local treatment to eradicate superfluous hair other than by the electric needle or x-ray G L Ahiips

Answer —We know of no satisfactory treatment for permanently eradicating superfluous hair save by destroying each hair follicle with an electric needle Temporary removal of the hair may be effected by the use of a depilatory A good one consists of 8 to 15 gm (2 to 4 drams) of barium sulphid with equal parts of zinc oxid and starch sufficient to make 30 gm (1 ounce) This is made into a thin paste with water, applied to the hairy region and left on until slight warmth is felt It is then washed off and a little dusting powder applied Shaving may also be resorted to It is asserted that *all these methods favor the growth of the hair*

REPORT ON DIABETIC FOODS

Toledo, O Sept 19, 1908

To the Editor —Will you kindly tell me where I can secure the report on 'Diabetic Foods' made by A L Winton of the Connecticut Agricultural Experiment Station and discussed by you in The Journal, June 29 1907? Louis A Levison

Answer —Address the Agricultural Experiment Station New Haven, Conn

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, week ending Sept 26, 1908

Davis W. R, captain left Fort Mason, Cal for duty with Co B H C *en route to camp at Atascadero Cal*

Weed F W, captain, left Plattsburg Barracks N Y, on leave of absence for one month

Stedman, C J captain, ordered to return from American Lake, Wash to Fort Stevens, Ore

Scott, G H, captain, granted an extension to his present leave of absence to include October 31

Brown, H L, captain granted leave of absence for five days

Purnell, H S, captain granted leave of absence for two months, about November 1

Huntington, P W, captain, granted an extension of one month to his present leave of absence

Scott, G H, relieved from duty at Fort Logan, Colo, at the expiration of his present leave of absence and ordered to proceed on transport sailing Nov 5 1908 to Manila P I, for Philippine service

Van Poole, G M, captain granted four months leave of absence when services can be spared

Vedder, E D, captain arrived at Fort Walla Walla, Wash, from four months' leave of absence

Keefer, F R major, ordered from San Francisco Cal to Presidio of Monterey, Cal, and thence to camp at Atascadero

Allen, J H captain granted leave of absence for one month in the United States

Clarke, J T major, granted leave of absence for one month in the United States

Jackson, T W M R C arrived at San Francisco, Cal on leave of absence for one month from Philippine Division

Garcia, L C, O'Day S F, Tuttle A D; Hill E C, Trenholtz C A, Kerr, R W, Snow, C G, Shields W S; Doerr, C E, Parce A D Harmon, D W, Dunbar L R, Magee J C Mueller, A; Wright F S, McDiarmid N L; Heath G D, Jr Waring, J B H; Davis, A D, Fronk C E, Caird D P; Smith, W H, Dear, W R; Bayly, R C, Goldthwaite R H; Wilson, J A; Leary, T J, Miner, D; McLellan G H, and Stayer, M C, M R C relieved from duty at present stations and ordered to proceed to Washington D C, and report October 1, for a course of instruction at the Army Medical School

Ferguson, J B, and Treuholtz, C A, M R C recently appointed from contract surgeon U S A, ordered to active duty

Campbell, G F, M R C having arrived at San Francisco, Cal from Philippine Service ordered to Alcatraz Island, Cal, for duty at the Pacific Branch U S Military Prison

Slater E F M R C ordered from Madison Barracks N Y, to Plattsburg Barracks N Y, for temporary duty during the absence on leave of Captain F W Weed, M C

Brewer I W M R C left Fort Warren, Mass on leave of absence for thirteen days

Whiteley, J H cont surgeon, relieved from duty at Fort De Soto Fla and ordered at the expiration of his leave of absence, to his home Chicago Ill for annulment of contract

Hess J H examining and supervising dental surgeon, ordered to temporary duty at camp at Atascadero, Cal

Tignor E P dental surgeon ordered from Governor's Island, N Y to Fort Totten N Y for temporary duty

Gunckel G I dental surgeon granted leave of absence for one month about October 4

Navy Changes

Changes in the Medical Corps U S Navy for the week ending Sept 26 1908

Lando M E, asst surgeon, ordered to the naval recruiting station, Buffalo N Y

Gardner, J E medical inspector, ordered to additional duty at the naval recruiting station Boston and to duty in attendance on officers of the Navy and Marine Corps residing in Boston not otherwise provided with medical aid

Fiske, C N, passed asst surgeon detached from the naval recruiting station Boston and ordered to the naval recruiting station Minneapolis

McDonell W N passed asst surgeon detached from the naval recruiting station Minneapolis and ordered to Washington D C, and report to the Surgeon General of the Navy for temporary duty, and thence to the Naval Academy

Shippen, L P, and Johnson L W, asst surgeons, appointed assistant surgeons from Sept 17 1908

Hathaway, G S passed asst surgeon commissioned passed asst surgeon from Aug 1 1908

The following assistant and acting assistant surgeons have been detached from the place opposite their names and ordered to the Naval Medical School, Washington D C for course of instruction Oct 1 1908

Toulon A T, asst surgeon, from Naval Hospital, Boston

Chambers, W, asst surgeon, from naval recruiting station, Buffalo N Y

Smith C W, asst surgeon from Naval Hospital, Portsmouth, N H

Grow G B, asst surgeon, from Navy Yard Norfolk, Va

Sutton, D G asst surgeon, from the *Franklin*

Ziegler, J C, acting asst surgeon, from Naval Hospital, Pensacola, Fla

Mann, W L, acting asst surgeon, from Naval Hospital, Newport, R I

Harlan, T acting asst surgeon, appointed acting asst surgeon from Sept 17, 1908

Kerr W M acting asst surgeon, from Naval Hospital, Norfolk Va

Clark G F acting asst surgeon, from the *Lancaster*

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Sept. 23, 1908:

Eager, J. M., asst.-surg.-general, directed to proceed to Philadelphia on special temporary duty, Sept. 24-26, 1908.

Nydegger, J. A., P. A. surgeon, granted extension of leave of absence for 23 days from Sept. 19, 1908.

Sprague, E. K., P. A. surgeon, granted 7 days leave of absence from Sept. 28, 1908.

Holt, J. M., P. A. surgeon, directed to proceed to Boise, Idaho, on special temporary duty, Oct. 8, 1908.

Wilson, R. L., P. A. surgeon, granted one day leave of absence, Sept. 22, 1908, under paragraph 189, Service Regulations.

Long, J. D., P. A. surgeon, assignment for special temporary duty at Los Angeles, Sept. 9, 1908, revoked Sept. 12, 1908.

Bahrenburg, L. P. H., P. A. surgeon, granted extension of leave of absence for 14 days from Oct. 11, 1908.

Stimson, A. M., P. A. surgeon, leave for 1 month and 15 days from Aug. 17, 1908, revoked from Sept. 11, 1908.

Smith, F. C., P. A. surgeon, granted one month leave of absence from Sept. 18, 1908.

Bowers, P. E., acting asst.-surg., granted 11 days extension on account of sickness from Aug. 21, 1908.

Browne, R. W., acting asst.-surg., granted 1 day leave of absence, Sept. 15, 1908.

Cleaves, F. H., acting asst.-surg., granted 4 days leave of absence from Sept. 15, 1908, under paragraph 210, Service Regulations.

Delgado, J. M., acting asst.-surg., granted 3 months extension of leave, without pay, from Sept. 20, 1908.

Goldsborough, B. W., acting asst.-surg., granted 5 days leave of absence from Sept. 16, 1908.

Kimmet, W. A., acting asst.-surg., granted 30 days leave of absence from Sept. 20, 1908.

Lyall, R., acting asst.-surg., granted 6 days leave of absence from Sept. 21, 1908, under paragraph 210, Service Regulations.

Marsh, W. H., acting asst.-surg., granted 13 days leave of absence from Oct 10, 1908.

Naulty, C. W., Jr., acting asst.-surg., granted 15 days leave of absence from Oct. 4, 1908.

Rice, W. E., acting asst.-surg., granted 7 days leave of absence from Oct. 5, 1908, under paragraph 210, Service Regulations.

Stanton, J. G., acting asst.-surg., granted 2 days leave of absence from Sept. 17, 1908, and excused without pay for 12 days.

BOARD CONVENED.

Board of Medical Officers convened to meet at Fortress Monroe on board Quarantine Barge *Jamestown*, for the purpose of making physical examinations of cadets for promotion in the Revenue Cutter Service, Sept. 25, 1908. P. A. Surgeon G. L. Collins, chairman; Acting Asst.-Surgeon H. W. Keatley, recorder.

PROMOTION.

Asst.-Surgeon W. M. Wightman commissioned as P. A. surgeon (recess) to rank as such from July 25, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the two weeks ended Sept. 25, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, Aug. 29-Sept. 5, 2 cases.

Indiana: Fort Wayne, Aug. 16-22, 1 case; Indianapolis, Sept 6-13, 7 cases; South Bend, Sept. 5-12, 1 case.

Kansas: Topeka, Sept. 5-12, 1 case; Wichita, Aug. 29-Sept. 5, 1 case.

Michigan: Saginaw, Aug. 29-Sept. 5, 6 cases.

Missouri: St. Joseph, Aug. 22-29, 1 case.

Ohio: Cincinnati, Sept. 4-11, 1 case; Dayton, Sept. 5-12, 1 case.

Pennsylvania: Philadelphia, Aug. 30-Sept. 4, 1 case.

Texas: San Antonio, Aug. 29-Sept. 5, 1 case.

Washington: Spokane, Aug. 9-29, 5 cases.

West Virginia: Charleston, Aug. 1-31, 2 cases.

Wisconsin: La Crosse, Aug. 31-Sept. 12, 6 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, July 19-Aug. 8, 13 cases, 7 deaths. Note: May 29, 4 cases of smallpox at Manila were entered as plague.

SMALLPOX—FOREIGN.

Algeria: Algiers, July 1-31, 11 deaths.

Arabia: Aden, Aug. 11-24, 21 deaths.

Borneo: Sandaken, June 9-16, 2 deaths.

Brazil: Bahia, July 1-31, 11 cases, 18 deaths; Para, Aug. 16-22, 5 cases, 5 deaths; Rio de Janeiro, Aug. 3-16, 738 cases, 268 deaths; Santos, June 19-Aug. 9, 30 cases, 15 deaths.

Canada: Halifax, Sept. 5-12, 2 cases.

Ceylon: Colombo, July 26-Aug. 8, 8 cases, 3 deaths.

China: *Amoy*, Aug. 1, present.

Ecuador: Guayaquil, Aug. 8-12, 12 deaths.

Egypt: General, July 23-29, 5 cases, 2 *deaths*; Cairo, Aug. 13-19, 2 cases, 1 death.

France: Toulon, July 1-31, 2 cases.

Germany: General, July 23-29, 4 cases.

Great Britain: Liverpool, Aug. 22-29, 1 case.

India: Bombay, Aug. 5-18, 11 deaths; Calcutta, July 26-Aug. 8, 9 deaths; Madras, Aug. 8-14, 1 death.

Indo-China: Saigon, July 25-Aug. 8, 5 cases, 1 death.

Italy, general: Aug. 17-30, 82 cases; Naples, Aug. 23-Sept. 6, 8 cases, 1 death.

Java: Batavia, July 26-Aug. 8, 6 cases, 1 death.

Norway: Christiania, Aug. 16-22, 51 cases, 1 death.

Peru: Lima: Aug. 15-22, 2 cases; Paita, present.

Portugal: Lisbon, Aug. 16-29, 2 cases.

Russia: Riga, Aug. 22-29, 1 case; St. Petersburg, Aug. 2-15, 23 cases, 3 deaths; Warsaw, July 5-25, 41 cases, 9 deaths.

Spain: Barcelona, Aug. 10-20, 4 cases; Valencia, Aug. 22-29, 1 case.

Switzerland: Zurich, Aug. 22-29, 3 cases.

Turkey in Asia: Bagdad, July 25-Aug. 15, 41 cases, 9 deaths.

Turkey in Europe: Constantinople: Aug. 17-30, 6 deaths.

YELLOW FEVER.

Brazil: Manaos, Aug. 9-15, 1 case; Para, Aug. 22-29, 1 case, 1 death.

Cuba: Habana, Sept. 13-16, 1 case, 1 death.

Ecuador: Guayaquil, Aug. 8-22, 2 deaths.

Martinique: Fort de France, Aug. 9-Sept. 5, 7 cases.

Mexico: Acapulco, Sept. 12, 1 case, 1 death; Merida, Sept. 11-17, 6 cases; Vera Cruz, Sept. 9-24, 2 cases.

CHOLERA—INSULAR.

Philippine Islands: Manila, July 26-Aug. 8, 29 cases, 25 deaths; provinces 2,945 cases, 1,889 deaths.

CHOLERA—FOREIGN.

Austria: Ostrowo, to Sept. 8, 76 cases, 39 deaths.

China: Amoy, July 26-Aug. 1, 2 cases, 2 deaths; Hankau, to Aug. 5, 10 cases, 7 deaths; Shanghai and vicinity, Aug. 23, present.

India: Bombay, Aug. 5-13, 3 deaths; Calcutta, July 26-Aug. 8, 19 deaths; Madras, July 26, Aug. 14, 234 deaths; Rangoon, Aug. 1-8, 1 death.

Indo-China: Cholon, July 25-Aug. 1, 5 cases, 5 deaths; Saigon, July 25-Aug. 8, 8 cases, 8 deaths.

Japan: Kure, naval, Aug. 15, present on a vessel stationed near Hiroshima; Kawasaki, Aug. 23, 1 case; Tokyo and vicinity, Aug. 22, 1 case; Yokahama, Aug. 23, 2 cases.

Russia: General, Aug. 8-17, 1,145 cases, 517 deaths; Astrakhan, 230 cases, 114 deaths; St Petersburg, Sept 10, 15 cases; Saratov, Aug. 8-17, 150 cases, 103 deaths.

PLAGUE.

Austria: Trieste, Sept 21, 2 cases, 1 death.

Brazil: Rio de Janeiro, Aug. 3-9, 1 death.

Chile: Antofagasta, Aug. 12, 3 cases; Iquique, Aug. 17, 4 cases, 3 deaths.

China: Amoy, Aug. 1, epidemic; Hongkong, July 26-Aug. 1, 6 cases, 5 deaths.

India: General, July 26-Aug. 8, 1,662 cases, 1,179 deaths; Bombay, Aug. 5-18, 7 deaths; Calcutta, July 26-Aug. 8, 30 deaths; Rangoon, 61 deaths.

Indo-China: Cholon, July 22-Aug. 1, 7 cases, 6 deaths.

Peru: General, Aug. 9-22, 40 cases, 18 deaths; Lima, 1 case, 1 death.

Turkey in Asia: Bagdad, Aug. 16-22, 2 cases, 2 deaths.

Venezuela: Caracas, Aug 8-21, 4 cases.

Medical Economics

The Attitude of Physicians on Optometry Laws.

A bill providing for a state board of examiners in optometry was introduced into the Ohio legislature at the last session but failed to pass. An editorial in the *Ohio State Medical Journal* for August states that this bill was approved by the Committee of the Section on Ophthalmology and Otology of the Ohio State Medical Association, and that as a result the Committee on Public Policy and Legislation was placed in an extremely embarrassing position owing to the apparent division of opinion regarding the bill on the part of the organized medical profession of the state.

As has been previously pointed out in this department, one of the methods used to secure the passage of these optometry bills in the various states has been to get the endorsement of physicians so far as possible before the real purport of the bill was understood. Specious arguments have been used, such as the necessity of "regulating" the "optometrists" of the state in order that the public might be "protected against incompetent opticians." In reality these arguments are only intended to hide the real purposes of the bill, which are to limit the optical business in the state to persons who are "graduates" of so-called "optical colleges" and at the same time to open a back door into the medical profession by which unqualified persons possessing only a superficial and hastily acquired acquaintance with a small part of one branch of medical knowledge can secure at least public recognition as a "doctor." Experience in states in which these "optometry" laws have been passed shows that persons licensed under the law have at once styled themselves "doctors of optometry," have designated their customers as "patients," and have been accepted by the public as competent to treat all diseases of the eye, whereas their training only includes a superficial instruction in the art of fitting glasses. As a result, the public is in much greater danger from these men who have received the stamp of the state's approval than it previously was from the ordinary unlicensed optician, who was properly regarded as a merchant and not as a professional man. Owing to the deceptive character of the arguments used in support of these bills, physicians, and especially committees or medical organizations, should be extremely careful not to endorse any such measures without investigation. The exact character of the bill proposed and the experience gained in other states by similar legislation should be carefully looked into before any endorsement is given. Even then it is far safer to leave the approval or condemnation of such proposed legislation to the committee on medical legislation of the state society which is in a position to investigate the circumstances carefully and to speak for the entire profession.

Unquestionably, a number of these bills will be submitted to the legislatures in different states during the coming winter. So far from having the endorsement of any physicians, they should be met with rigid disapproval and condemnation. There is no necessity nor justification, either legal or economic, for any such laws, nor can any argument in favor of them be made which is not founded on sophistry.

Physicians and Privileged Communications.

A recent occurrence in Ohio has served to call attention to the legal rights of physicians, as regards communications received by them from patients. The circumstances, as narrated by the physicians interested in the case are as follows.

A man came to a physician's office suffering from a wound of the penis, and received proper surgical attention. Two months later the physician was summoned to testify before the grand jury The man was under bond charged with attempted rape. The prosecuting attorney of the county asked the doctor if he had treated the individual for a certain wound on a certain day. The doctor refused to answer on the ground that a confidential relation existed between him as physician and the individual in question as patient. The prosecuting attorney asked him many more questions of the same nature all of which he refused to answer. He was then taken before the common pleas judge and asked his reasons for not answering the questions of the attorney. He again stated that his relations with his patient were confidential and inviolable. He was then sent back to the grand jury room, the questions were again asked and the same answer returned, the court stenographer taking a transcript of the proceedings. After being again brought before the court he was taken to the grand jury room where, under protest, he answered the questions of the district attorney. He was then called before the judge and given a scathing rebuke for his refusal to answer in the first place.

The *Ohio State Medical Journal* for September contains a letter from Dr. George B. Kistler, the physician involved in the case, setting forth the facts as given above and discussing the law in Ohio regarding privileged communications. Commenting editorially on the case the *Journal* says, "There is a generally current opinion among physicians that all communications of patients are sacred and inviolable, even to the extent of absolving the attending physician from testifying in court unless distinctly released from his obligation of secrecy by the patient. A competent legal authority consulted by the *Journal*, however, evidently differs from this conception."

The lawyer to whom the question was submitted says: "In Ohio there seems to be no privilege extended to physicians under such circumstances. The policy of the law has ever been to remove the ban of privilege whenever the subject of judicial inquiry is the commission of a crime. The question whether a communication between a physician and patient, which if divulged would lead to the disclosure of the commission of a crime, is privileged, seems not to have been decided by our court of last resort although, in criminal practice, trial judges have had occasion to deal with the subject and have decided as the court did in the Kistler case. Under the common law there were no privileges extended to communications between physician and patient and unless we find the privilege extended by statute there can be none."

This case and the resultant discussion should emphasize the fact that communications from a patient to his physician are privileged only in those states in which there exists a specific statute to that effect. In some states there are no such provisions. In others, professional communications are privileged in civil cases but not in criminal, while in a few states they are regarded as privileged in any legal action. It consequently follows that it is advisable for physicians to secure competent legal advice regarding the exact situation in the particular state in question before assuming that professional communications are entitled to exemption. This idea of universal exemption, like many of the beliefs regarding physicians' legal rights, is founded more on tradition than on actual knowledge of law in the different states.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course]

Second Month.

THIRD WEEKLY MEETING.

PRINCIPLES OF SERUM THERAPY.

INJECTIONS.—1. Prophylactic, (a) active, (b) passive, (c) mixed. 2. Curative, (a) active, (b) passive (with antitoxic or antibacterial serums).

A. Antitoxins. — Success depends on: (1) Concentration (strength) of antitoxins. (2) Its freedom from contamination. (3) Time of administration. (4) Quantity injected. (5) Degree of affinity between (a) toxin and antitoxin, (b) toxin and tissue cells. (6) Amount of toxin which may be bound without fatal issue. (7) Accessibility of toxin.

B. Bactericidal Serums.—Of low curative and prophylactic power: 1. Because they are not antitoxic. 2. They may liberate excessive amount of endotoxin by dissolving bacteria. 3. The lability of exogenous complement. 4. Power of tissues to absorb complement of a foreign serum. 5. Lack of sufficient amount of suitable complement in human body. 6. Difficulty of obtaining amboceptors for which human complements are suited. 7. Possibility of diversion of complement by excess of amboceptors. 8. Inaccessibility of bacteria in certain infections.

Vaccination.—Use of attenuated or killed cultures, or toxins, or unknown agent (smallpox) by inoculation, producing active immunization, with formation of specific antibodies. Negative and positive phases in production of antibodies; nature of antibodies, amboceptors, opsonins, antibacterial or antitoxic agents.

INFECTIOUS DISEASES IN WHICH IMMUNITY OCCURS.

I. ACQUIRED IMMUNITY IS CHIEFLY ANTITOXIC.

A. BACTERIAL DISEASES.

1. Diphtheria. Bacillus diphtheriæ, morphologic and staining characteristics. Infection from (1) infected persons, (2) convalescent, (3) healthy bacillus carriers, (4) latent cases. Transmission by direct or indirect contact, droplet and dust infection. Pathogenesis. Location of bacilli, formation of toxin, local effects, formation of membrane, receptors in organs and tissues of body. Effect of mixed infections. Susceptibility and immunity, active immunity solely antitoxic. Presence of leucocytosis. Serum therapy prophylactic and curative. Diphtheritic paralysis, relation to antitoxin treatment, presence of toxon.
2. Tetanus. Bacillus, cultural and staining characteristics, habitat, street dirt, manure, intestinal tract of man and animals, soiled clothing. Infection, in wounds, anaërobic conditions, presence of foreign bodies and necrotic tissue. Mixed infections. Pathogenesis. Localization of bacilli, two soluble toxins, tetanospasmin and tetanolysin, effect of each. Susceptibility and immunity, varieties of tetanus. Antitoxin, value as prophylactic, curative value Methods of using antitoxin.
3. Botulism. Meat poisoning. Symptoms due to toxin not bacterium. Affinity of toxin for nervous tissue.
4. *Bacillus pyocyaneus.* In local and systemic infections Produces pyocyanin, pigment, ferments, toxin and endo toxin Agglutinin

B. Plant Toxins.

1. Hay Fever. Toxin found in pollen of rye, barley, wheat, corn, dog's tail, couch-grass, millet, rice, goldenrod, ragweed and others. Pathogenesis. Effect of toxin on conjunctival, nasal and bronchial mucous membranes. Preparation and use of antitoxic serum (pollantin). 2. Ricin, abrin, crotin and robin. "Phallin" from *Amanita phalloides*.

C. Animal Toxins.

1. Snake Venoms. Consist of neurotoxin, hemolysins and hæmagglutinins, hemorrhagin, leucocytic toxins, ferments. Antivenins and toxoids in production of immunity. Curative value.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

ARIZONA Board of Medical Examiners, Phoenix, October 5-6. Secretary, Dr. Ancil Martin, Phoenix.

UTAH State Board of Medical Examiners, Salt Lake City, October 5-6. Secretary, Dr. R. W. Fisher, Salt Lake City.

IDAHO State Board of Medical Examiners, Boise, October 6. Secretary, Dr. W. F. Howard, Pocatello.

MONTANA State Board of Medical Examiners, Senate Chamber, the Capitol, Helena, October 6. Secretary, Dr. W. C. Riddell, Helena.

COLORADO State Board of Medical Examiners, State Capitol, Denver, October 6. Secretary, Dr. S. D. VanMeter, 1723 Tremont Place, Denver.

NORTH DAKOTA State Board of Medical Examiners, Grand Forks, October 6-8. Secretary, Dr. H. M. Wheeler, Grand Forks.

MINNESOTA State Board of Medical Examiners, the Old Capitol, St. Paul, October 6-9. Secretary, Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

NEW MEXICO Board of Health and Medical Examiners, Santa Fe, October 12-13. Secretary, Dr. J. A. Massie, Santa Fe.

ARKANSAS Regular Board of Medical Examiners, Little Rock, October 13. Secretary, Dr. F. T. Murphy, Brinkley.

ARKANSAS Homeopathic Board of Medical Examiners, Little Rock, October 13. Secretary, Dr. P. C. Williams, Texarkana.

GEORGIA Regular Board of Medical Examiners, Capitol Building, Atlanta, October 13. Secretary, Dr. E. R. Anthony, Griffin.

MISSISSIPPI State Board of Health, The Capitol, Jackson, October 13. Secretary, Dr. S. H. McLean, Jackson.

KANSAS State Board of Medical Registration and Examination, Topeka, October 13-15. Secretary, Dr. R. A. Light, Chanute.

MICHIGAN State Board of Registration in Medicine, Lansing, October 13-15. Secretary, Dr. B. D. Harison, 504 Washington Arcade, Detroit.

WYOMING Board of Medical Examiners, October 14-16. Secretary, Dr. S. B. Miller, Laramie.

NEW JERSEY State Board of Medical Examiners, State House, Trenton, October 20-21. Secretary, Dr. J. W. Bennett, Long Branch

ILLINOIS State Board of Health, Great Northern Hotel, Chicago, October 21-23. Secretary, Dr. J. A. Egan, Springfield.

INDIANA Board of Medical Registration and Examination, Room 120, State House, Indianapolis, October 27. Secretary, Dr. W. T. Gott, Room 120, State House, Indianapolis.

California August Report.

Dr. Charles L. Tisdale, secretary of the Board of Medical Examiners of the State of California, reports the written examination held at San Francisco, Aug. 4-6, 1908. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 136, of whom 67 passed and 69 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
University of California (1907) 79.2; (1908) 78.4, 80.2, 80.5, 80.7, 80.8, 81, 82.3, 83.1, 85.1, 90.1.		
University of Southern California (1902) 80; (1908) 75.8, 76.5, 78.1, 78.1, 79.3, 81, 81.1, 81.3, 82, 82, 82.6, 83.5, 94.3.		
Oakland Coll. of Med. and Surg.	(1908)	75.9
College of P. and S., San Francisco	(1908)	75, 78.8
Hahnemann Med. Coll. of the Pacific	(1908)	75, 75.4
College of P. and S., Los Angeles	(1908)	76.3, 77, 77.8, 81.8
Cooper Med. Coll. (1907) 76.6, 77.6, 78.6; (1908) 75, 75.7, 76.9, 78.6, 79.5, 79.5, 80.3, 80.4, 80.6, 80.7, 81.1, 81.9, 83.6, 83.8, 84.2, 84.4, 84.5, 84.6, 85, 88.1.		
Rush Med. Coll.	(1893)	87.8
Northwestern Univ. Med. School	(1908)	77.4
Harvard Med. School	(1905)	75.8
University of Michigan (1891) 78.6; (1895) 92.2;	(1896)	84.8
New York Homeo. Med. Coll.	(1908)	75.1
Ohio Medical University	(1903)	76.7
Jefferson Med. Coll.	(1908)	78.8, 80.3

FAILED.

University of Southern California (1904) 69.3; (1905) 69.7; (1907) 69.4, 71.6, 71.9; (1908) 57.5, 68, 71.1, 72.5, 73.3, 73.6, 73.6, 75.1		
University of California	(1908)	67.6, 70.2
College of P. and S., Los Angeles (1906) 69.4; (1908) 69.9, 70, 70.8, 73.9.		
Cooper Med. Coll. (1903) 61; (1907) 71.6;	(1908)	71.7
College of P. and S., San Francisco (1902) 59.9, 69.3; (1904) 65.1; (1906) 46.4, 68, 69.6; (1907) 57.5; (1908) 60.8, 68.9, 72.5, 72.6.		
California Med. Coll. (1905) 63.6;	(1906)	48.5, 65.9
Hahnemann Med. Coll. of the Pacific	(1908)	61.4, 62.9, 70.2, 73.2
Illinois Med. Coll.	(1908)	9.9
Northwestern Univ. Med. School	(1908)	66.8
Rush Med. Coll. (1889) 69;	(1908)	72.9
Central Coll. of P. and S., Indianapolis	(1886)	66.2
Keokuk Med. Coll., Coll. of P. and S.	(1908)	58.3
University of Iowa	(1907)	69.9
Louisville Med. Coll. (1897) 71.7;	(1905)	64
Kentucky School of Med.	(1891)	72.9
Baltimore Med. Coll.	(1906)	65.3
University of Michigan (1884) 71.4;	(1892)	70.7
Tufts Coll. Med. School	(1905)	48.3
University of Minnesota	(1904)	69.2
University Med. Coll., Kansas City	(1908)	72.9
Medico-Chirurgical College, Kansas City	(1903)	48.5
Omaha Med. Coll.	(1902)	65.9
Toledo Med. Coll.	(1884)	28.8
Miami Med. Coll.	(1905)	73.7
Jefferson Med. Coll. (1895) 46.7;	(1908)	74.1
University of Pennsylvania	(1906)	71
Medico-Chirurgical Coll., Philadelphia (1904) 46.4;	(1906)	65.7
Royal University of Ireland	(1888)	75
University of Jena, Germany	(1868)	73.8
University of Copenhagen, Denmark	(1906)	72.9

Wisconsin July Report.

Dr. J. V. Stevens, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Madison, July 14-16, 1908. The number of subjects examined in was 22; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 66, of whom 60 passed, 3 were conditioned and 3 failed. Eleven reciprocal licenses were granted at this examination, and 2 candidates were licensed under the exemption clause. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Northwestern Univ. Med. School (1897) 80;	(1908)	77
Hahnemann Med. Coll., Chicago	(1900)	79
Chicago Coll. of Med. and Surg.	(1908)	94
College of P. and S., Chicago	(1908)	75, 79, 81, 81, 82, 85, 92
Rush Med. Coll.	(1908)	82, 87
Hering Med. Coll.	(1908)	78
Illinois Med. Coll.	(1906)	79
Saginaw Valley Med. Coll.	(1900)	76
University of Michigan	(1895)	91
Barnes Med. Coll.	(1908)	85
St. Louis Coll. of P. and S.	(1907)	81
Marion Sims College of Med.	(1894)	79
Harvard Med. School	(1904)	78
Woman's Med. Coll. of Pennsylvania	(1905)	83
Jefferson Med. Coll.	(1908)	94
Wisconsin Coll. of P. and S. (1907) 75, 85; (1908) 81, 82, 82, 85, 88.		
Marquette University, Milwaukee (1908) 75, 79, 79, 80, 81, 81, 81, 82, 82, 82, 82, 82, 82, 83, 83, 83, 84, 84, 84, 85, 85, 86, 86, 87, 87, 88, 88, 88, 89, 91.		

FAILED.

Marquette University, Milwaukee	(1908)	67, 67.5, 67.7

CONDITIONED.

College of P. and S., Boston	(1904)
Marquette University, Milwaukee	(2, 1908)

LICENSED THROUGH RECIPROCITY.

College.	Year grad.	Reciprocity with.
College of P. and S., Chicago	(1901) (1907)	Illinois
Northwestern Univ. Med. School	(1904) (1905) (1907)	Illinois
Rush Med. Coll.	(1906) Illinois; (1906)	Minnesota
Bennett Coll. of Ecl. Med. and Surg.	(1906)	Illinois
Hahnemann Med. Coll., Chicago	(1881) Minnesota; (1900)	Illinois
Univ. of Minnesota	(1903)	Minnesota

LICENSED UNDER EXEMPTION CLAUSE.

College.	Year of Grad.
Wisconsin Coll. of P. and S.	(2, 1908)

New Jersey June Report.

Dr. J. W. Bennett, secretary of the State Board of Medical Examiners of New Jersey, reports the written examination held at Trenton, June 16-17, 1908. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 59, of whom 49 passed and 10 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
College of P. and S., Baltimore	(1907)	81.8
University of Maryland	(1899) 85.1; (1908)	80.9
Baltimore Med. Coll.	(1896) 86.1; (1905) 85.8; (1907)	77.9; (1908) 76.9.
Creighton Med. Coll.	(1908)	88.3
Long Island Coll. Hosp.	(1907) 80.6; (1908)	83.1
University and Bellevue Hosp. Med. Coll.	(1908)	84.5
Hahnemann Med. Coll., Philadelphia	(1902) 84.1; (1908)	84.9
Woman's Med. Coll. of Pennsylvania	(1905) 80.1; (1906)	80.1; (1908) 81.9, 81.9, 82.3, 83.1.
University of Pennsylvania	(1907) 77.6, 80.6, 81.5; (1908)	75.9, 81.1, 82.8, 83.3, 83.7, 83.7, 84.3, 84.7, 85.3, 87.2, 88.7, 90.2.
Jefferson Med. Coll.	(1906) 75, 76.4, 78.5, 86.4; (1907) 75.5,	80.5, 85.9; (1908) 80.6.
Medico-Chirurgical Coll., Philadelphia	(1901) 82.4; (1908)	75.1, 81.7, 83.5, 85.2.
University of Virginia	(1900) 82.2; (1903)	80 9

FAILED.

College.	Year Grad.	Per Cent.
University of Georgia	(1901)	72.1
University of Louisville	(1908)	67.1
Kentucky School of Med	(1906)*	
Maryland Med. Coll	(1908)	65.9
Long Island Coll. Hosp	(1880)	62.4
Albany Med. Coll	(1903)	70.4
New York University Med. Coll	(1880)	61.2
University of Naples, Italy	(1906)	61.2
Royal Inst. of Florence, Italy	(1896)	64.2
Royal University, Turin, Italy	(1900)	64.8

* Percentage not given.

West Virginia July Report.

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the oral and written examination held at Charleston, July 14-16, 1908. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 80. The total number of candidates examined was 72, of whom 56 passed and 16 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Kentucky School of Med	(1907) 88; (1908)	80, 84
University of Louisville	(1908) 81, 83, 84, 84, 84, 85, 86, 86, 87, 87, 90.	
Louisville and Hosp Med. Coll	(1908) 84, 84,	85
Baltimore Med. Coll	(1908)	87, 87
Maryland Med. Coll	(1906) 85; (1907) 80; (1908)	87
University of Maryland	(1907) 86; (1908)	85
College of P. and S., Baltimore	(1907) 86; (1908) 82, 83, 84, 84, 84, 85, 86, 86, 87, 88, 88, 88, 89, 89, 90.	
Leonard School of Med	(1908)	80
Starling-Ohio Med. Coll	(1908)	83
Medical Coll. of Ohio	(1908)	83, 89
Eclectic Med. Inst., Cincinnati	(1908)	85, 90
University of Pennsylvania	(1908)	86, 90
Jefferson Med. Coll	(1908)	90
University of Nashville	(1908)	81
University Coll. of Med., Richmond	(1908)	80, 85, 87
Medical Coll. of Virginia	(1908)	80, 81, 91

FAILED.

College.	Year Grad.	Per Cent.
Louisville and Hosp. Med. Coll.	(1908)	75, 75, 75, 75, 75
Hospital Coll. of Med., Louisville	(1907)	78
Kentucky School of Med.	(1905) 64; (1907) 75; (1908)	78
University of Louisville	(1907)	72
University of Maryland	(1908)	*81
Maryland Med. Coll	(1908)	76
Medical Coll. of Ohio	(1907)	*80
Miami Med. Coll	(1908)	78
Starling Med. Coll	(1897)	74
Chattanooga Med. Coll	(1904)	73

* Fell below 65 in one or more branches.

The following questions were asked:

ANATOMY AND EMBRYOLOGY.

1. White and yellow elastic tissue: Describe them and give principal uses. 2. Bone: Describe its structure and physical properties. 3. Name the bones of the head. Name the principal sutures. 4. Elbow joint: Describe it naming bones, muscles that move it and arteries that cross it. 5. Celiac axis: Give origin and distribution. 6. Diaphragm: Describe it; what structures pass through it? 7. Serous membranes: Name three and what do they envelop? 8. Appendix vermiformis: Describe it; give anatomic relations. 9. Ductless glands: Name three; give location of each. 10. Wolffian body: Describe and give function.

PHYSIOLOGY AND HISTOLOGY.

1. Describe the clotting of blood and give a theory for the genesis of fibrin. 2. Explain how absorption occurs by the lymphatics and state what factors are operative in the process. 3. State in brief the functions of connective tissue, naming three varieties of this tissue. 4. When and how do the various types of food, when digested, enter the blood? 5. What is the function of the sixth (abducens) nerves? 6. What is the composition of urine? Give the normal reaction and specific gravity of urine. 7. Does stimulation of the pneumogastric nerve quicken or slow the heart? 8. What are the functions of the pancreas? What disease is caused by its extirpation? 9. Define histology. 10. Describe the histologic structure of the liver.

CHEMISTRY AND MEDICAL JURISPRUDENCE.

1. Define element, ion, specific gravity, reaction, anhydrid. 2. State the source of each of the following acids: Hydrochloric, sulphuric, lactic, tannic, tartaric. 3. What is (a) H_2SO_4, (b) BaO_2, (c) HCl, (d) HNO_3? (e) What is the formula of methyl alcohol? 4. In case of suspected poisoning, fatal termination, give briefly what you would do with respect to preparing and preserving evidence for the toxicologic chemist. 5. Give specific gravity of albuminated urine; (b) give two tests for albumin in the urine; (c) specific gravity of saccharine urine; (d) two tests for sugar in the urine. 6. Give chemistry for respiration, showing (a) what is inhaled, (b) what is exhaled, (c) how the gases enter and leave the body. 7. Describe the chemical changes in starch during digestion in detail, giving formula. 8. Give a classification of insanity. 9. Give appearance of gunshot wound, at entrance and exit. 10. How would you determine whether a child was born alive or drowned?

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC).

1. Define briefly specific medication. 2. What is a decoction, infusion, tincture? 3. When would you use aconite, belladonna, gelsemium or echinacea in treating a fever? 4. What are the specific indications for the use of veratrum viride? 5. Chionanthus? 6. Sulphite of soda? 7. Phytolacca? 8. What is an anesthetic? Name one local and one general and give mode of using. 9. Name ten drugs you rely mostly on and for what pathologic conditions you prescribe each. 10. Give the dose of morphin, strychnin, atropin, acetanilid, trional.

OBSTETRICS AND GYNECOLOGY.

1. Explain the phenomenon, source and purpose of menstruation. Name the organs of generation. 2. Define ovation, conception, gestation. State a plausible theory of the determination of sex. 3. What is Graafian follicle? Explain function of chorion and amnion. 4. Explain fetal circulation and the function of the placenta. 5. What obstructs ready passage of child through parturient canal? What should preliminary examination reveal? 6. Give the various presentations and positions, the most common and most desirable ones, and why? 7. Causes and treatment for endometritis. How can vaginal applications affect the malady? 8. Cause of and treatment for carbuncle, cysto and rectocele. 9. Detail the symptoms and far-reaching results of gonorrhea in women. 10. Give the various causes or kinds of dysmenorrhea and the treatment indicated for each.

BACTERIOLOGY AND HYGIENE.

1. What bacteria are essential to animal life? Explain their action. 2. Describe *Streptococcus pyogenes* and *Staphylococcus aureus*, and tell where they are found. 3. Describe the Klebs-Loeffler bacillus and *Bacterium anthracis*. 4. What do you mean by the terms antitoxin and immunization? 5. What are ptomains? Where are they mostly found? In what manner is ptomain poisoning produced? 6. Define and give an example of the following: Disinfectant, deodorant and antiseptic. 7. What precautions would you take and advise to prevent the spread of the following: Diphtheria, smallpox and typhoid fever? 8. Describe the most approved sanitary treatment of tuberculosis. 9. What hygienic function does the skin perform? What evil effects are produced by its improper action? 10. Name some of the diseases usually caused by water, air and soil. How may each be eradicated?

MATERIA MEDICA AND THERAPEUTICS.

1. Give origin, indication, contraindications and dose of adrenalin. 2. Give origin, physiologic action, indications and dose of hyoscyamin and hydrobromate of hyoscin. 3. Tannic acid: How obtained, physiologic action, dose. 4. Describe origin, physiologic action, dose of salicylic acid. 5. Name origin, action, use and dose of pilocarpin. 6. Name two most useful alkaloids of nux vomica and dose; two of opium, dose, two of belladonna. 7. Give dose of carbolic acid, tr. iodin, aconite, tr. digitalis, tr. veratrum viride. 8. Name four most useful preparations of mercury, dose of each, when indicated. 9. Describe hamamelis, therapeutic indication, dose. 10. Describe ergot, action, indications, dose.

PRACTICE AND PEDIATRICS (ECLECTIC).

1. Treat a case of pneumonia. 2. Treat a case of acute rheumatism. 3. Treat a case of angina pectoris. 4. Give diagnosis and treatment of dysentery. 5. Give diagnosis and treatment of erysipelas. 6. Name the remedies usually indicated in typhoid fever. 7. Give differential diagnosis of measles and scarlet fever. 8. Give differential diagnosis of variola and varicella. 9. Give differential diagnosis of diphtheria and follicular tonsillitis. 10. Treat a case of diphtheria.

PRACTICE AND PEDIATRICS.

1. Give etiology, pathology and treatment of typhoid fever. 2. Differential diagnosis of diabetes insipidus and diabetes mellitus. 3. What is aneurism? Emphysema? 4. Cholera infantum, etiology, symptoms and treatment. 5. What is cerebrospinal meningitis? 6. Give pathology and treatment of tonsillitis. 7. Diagnosis and treatment of pericarditis. 8. What are some of the causes of convulsions in children? Treatment. 9. Does teething affect the health of a child? If so, how? 10. What is chorea? Treatment.

SPECIAL PRACTICE.

1. Give diagnosis of cirrhosis of the liver. 2. Give normal area of the heart, normal sounds and where found. 3. What is aphonia? Probable causes? 4. Describe tracheotomy. 5. What are the symptoms of adenoids? 6. Describe the turbinated bones and tissues. 7. Treat an ulcer of the cornea. 8. What is glaucoma? Treatment. 9. Describe paralysis agitans. 10. Define hallucinations, illusions, delusions.

SURGERY.

1. What is a Pott's fracture? How would you treat a case? 2. What are the chief indications for operative interference in gunshot wounds? 3. Give causes and treatment of varicose veins of lower extremity. 4. Indicate a rational treatment for hemorrhoids. (a) Palliative, (b) one operative method. 5. What is a sprain. What tissues are involved? Give treatment for a sprained ankle. 6. What are the differences between femoral, umbilical and ventral hernia? 7. How would you reduce a dislocation of the ulna backward on the humerus? 8. What is meant by antiseptic? (a) Aseptic? (b) What is the best method of rendering surgical instruments aseptic? (c) In what strength should bichlorid of mercury be used as a lotion? (d) Carbolic acid? What is necessary to render ordinary water sterile? 9. How would you treat a case of chilblain or frost bite? 10. What is shock? Cause and treatment.

Society Proceedings

COMING MEETINGS.

Internat'l Congress on Tuberculosis, Washington, Sept. 21 to Oct. 12.
Nevada State Medical Association, Goldfield, Oct. 6-7.
Minnesota State Medical Association, St. Paul, Oct. 7-8.
Idaho State Medical Association, Boise, Oct. 8-9.
Assn. of Military Surgeons of the U. S., Atlanta, Ga., Oct. 13-16.
American Assn. of Railway Surgeons, Chicago, Oct. 14-16.
Mississippi Valley Medical Assn., Louisville, Oct. 13-15.
Delaware State Medical Society, Wilmington, Oct. 14.
Vermont State Medical Society, Rutland, Oct. 15-16.
Medical Society of Virginia, Richmond, Oct. 20-23.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington, D. C., Sept. 28 to Oct. 3, 1908.

(By Telegraph from our Special Representative.)

WASHINGTON, D. C., Sept. 29, 1908.

The success of the International Congress on Tuberculosis is so great as to stamp this meeting as one of the greatest works ever accomplished in the antituberculosis crusade.

THE JOURNAL has given in the past few issues general descriptions of the magnificent exhibit and has detailed the programs and named the illustrious foreign workers expected to be present. It has been evident for some time that the international cooperation in this congress, as well as the hearty support of American physicians, promised to make it a most notable event. It is estimated that 4,000 delegates were present at the first general meeting.

THE FIRST GENERAL MEETING.

The hall of the new museum was gaily decorated with the flags of the countries represented, and the occasion was enlivened with music by the U. S. Marine Band. It was a scene of great enthusiasm, contributed to not a little by the realization that the efforts of the many antituberculosis bodies are steadily and surely accomplishing great results for the people of the world.

The spokesmen of the various nations, the officers of the congress, the honorary presidents and the section presidents occupied seats on the platform.

Secretary Cortelyou presided for the United States government as the representative of President Roosevelt. He made the official address of welcome and was followed by the Hon. B. F. MacFarland, president of the Board of Commissioners of the District of Columbia, who welcomed the delegates in behalf of the district.

OVATION TO DR. KOCH.

The roll of countries was called in alphabetical order, and as each was called its spokesman made a brief speech for his country.

When Germany was called, a great ovation was given to Dr. Robert Koch, the famous scientist and world-renowned investigator. The audience stood and cheered; men threw up their hats and ladies waved their handkerchiefs. It reminded one of a political demonstration and manifested how near to the hearts of the physicians and sociologists present is the work that they are doing against the great white plague.

Dr. Flick announced the following newly elected honorary presidents: Dr. Edward L. Trudeau, Saranac Lake, N. Y.; Dr. Robert Koch, official delegate from Germany; Prof. Lewis Landouzy, official delegate from Paris, and Dr. C. Theodore Williams, official delegate from the British government.

THE TUBERCULIN REACTIONS.

Great interest was manifested in the joint meetings of sections one and two in discussing the opsonic index, conjunctival and cutaneous reactions, serum diagnosis, etc. These subjects were of fascinating interest to the delegates, who sought the latest information in these rapidly developing additions to medical knowledge.

A joint meeting of sections one and seven was held in which was discussed the relations of human and bovine tuberculosis.

THE EXHIBITS AND THE SOCIAL FUNCTIONS.

The exhibits were well patronized, and, as we stated in our special telegram last week, there is abundant reason for the interest of those in attendance. The foreign delegates are to be given a dinner by the Secretary of State. The reception at the Corcoran Art Gallery was well attended. There will also be a reception given by President Roosevelt on Friday. This will, of course, be a special occasion.

THE JOURNAL commences below a detailed report of the scientific proceedings of the congress. This will be continued next week.

SECTION II.—CLINICAL STUDY AND THERAPY OF TUBERCULOSIS.

President, Dr. Vincent Y. Bowditch, Boston Massachusetts;
Secretaries, Dr. William J. Barlow, Los Angeles;
Dr. Guinard Bligny, France.
September 28.

Duration of the Actively Infectious Stage of Tuberculosis.

DRS. ROBERT N. WILLSON and RANDLE C. ROSENBERGER, Philadelphia, have studied the rich store of tuberculous material in the Philadelphia General Hospital from both the clinical and laboratory standpoints, examining in each case, when possible (100 cases completely), the urine, sputum and feces, and often also the semen, the blood, the spinal fluid, and thoracic or abdominal effusions. In a great majority of instances the tubercle bacilli proved demonstrable in at least one, and usually in all three of the main excretions, and occasionally in all the body fluids, including five out of eight cases in which even the semen contained the bacilli at the time of the autopsy. The bacilli were demonstrated in the feces in every case in which they were found in either the sputum or urine, and in many cases in which the tuberculous process was either of the acute miliary type, or seemingly of a strictly localized nature (e. g., glandular, etc.).

The duration of viability of the bacillus in sputum, urine and feces, was found to be very variable, especially when allowed to dry in full sunlight. In every instance many days passed before the disappearance of the bacilli, and in water they were found to live for over a year. Practically no limit was determinable for the duration of infectiousness of even the dried excretions. Though in some specimens after several weeks' time the bacilli resisted tinctorial methods, from all the disease was transmitted to susceptible lower animals.

Inoculation experiments were performed on guinea-pigs to ascertain the earliest appearance of bacilli in the excretions following infection by feeding, as well as by hypodermic and intraperitoneal injection. Clinical instances of incipient pulmonary tuberculosis in the human being, also of tuberculosis of other portions of the body than those communicating with the air, are cited to show the infectiousness of urine and feces, almost from the beginning of the disease. In all animal experiments the bacilli were demonstrated in the feces and urine within the first week, in most cases before either cough or sputum appeared.

Especial emphasis is laid on the importance of the presence of living bacilli in the urine and feces of all cases of tuberculosis, whether of the genitourinary, or intestinal, or respiratory, or other tract; and the bearing of their presence on the infectiousness of sewerage, and of the drinking supply. Attention is urgently directed to the necessity of systematically preventing the spread of tuberculosis through these new unguarded channels, if the disease shall ever be brought under control.

Comparative Importance of Treatment in Sanatoria Near at Hand and an Entire Change of Climate.

DR. FREDERIC J. KNIGHT, Boston, said that the modern treatment of tuberculosis has been directed to the individual affected rather than to the disease. Sanatorium treatment is the most efficient method of subjecting a patient to proper treatment. We can not strictly compare sanatorium and climatic treatment, as climate is a factor of all treatment. If the proposition is as to the relative merits of sanatorium treatment near home, and an unrestrained life under radically changed climatic conditions, the choice would usually be for the former. A radical change in meteorologic conditions is sometimes necessary for its effect on metabolism.

but the relative value of the climatic factor will only be determined by a careful comparison of statistics of observations made under similar conditions in different parts of the world.

SECTION III.—SURGERY AND ORTHOPEDICS.

President, Dr. Charles H. Mayo, Rochester, Minn.; Secretaries, Dr. W. D. Haggard, Nashville, Tenn.; Dr. John T. Bottomley, Boston, Mass.

The Construction of Hospitals for Tuberculous Patients.

Meyer J. Sturm, B.S., Chicago, said that in the designing of hospitals for surgical tuberculosis the general conditions are the same as those for other hospitals. The construction should be made for compactness, with a maximum of specific requirements and of efficiency in maintenance, at the least cost.

The location should be chosen so as to obtain an abundance of sunlight, absence of dust, absence of smoke, proper ventilation, disposition of sewage, safety from fire, absence of noise, possibility of future expansion and accessibility.

Rooms and wards are to be on separate floors. The windows in these rooms and wards are to be of a type to make practically open-air sleeping rooms. The toilet and service rooms are to be separated and equipped with ordinary and special apparatus for this class of buildings.

The main kitchen is to be placed on the top floor for economy in handling and for superior ventilation, and is to be connected with the diet kitchen by food lift and dumbwaiter, each kitchen to be equipped so that food can be served hot and palatable at all times.

Floors and wainscots and walls are to be of sanitary construction. The trim to be simple. The building to be equipped with vacuum cleaners and signal system for calling nurses by electric light.

DISCUSSION.

Dr. F. Gallagher, El Paso, Texas, said that the plan of a hospital as presented by Mr. Sturm can scarcely be improved on, even for a general tuberculosis hospital. It would be better, if possible, to have a separate hospital for surgical tuberculosis, and he knows of no arrangement which will more fully answer the requirements than the details presented by Mr. Sturm. Under present conditions cases of surgical tuberculosis have to be cared for either in institutions devoted to tuberculosis or in the surgical wards of general hospitals. The hospital must be so constructed as to accommodate many patients under a single roof. The high cost of ground makes the multiple-story building necessary, and a building located too far from the center of business life would very largely preclude the attendance of physicians; and for the best results the attendance of doctors is necessary.

Value of Ocular Tuberculin Test in Surgical Treatment of Orbital Disease.

Dr. Charles A. Oliver, Philadelphia, read a paper which, based on a study of three clinical cases, shows that the test may prove of value not only in regard to diagnosis, but in reference to both prognosis and method of therapy in such types of disease. The following conclusions are offered:

Ocular tuberculin tests, judiciously used, are of value in the determination of tuberculosis of the corresponding eye and its adnexa, particularly in primary infections of the same, and should be made in every doubtful case.

Ocular tuberculin tests properly employed in such cases, serve not only for purposes of etiologic diagnosis, but are of importance in the determination of methods of treatment for the removal of the local disease.

Ocular tuberculin tests carefully made, should form a part of the routine study employed in every case of doubtful disease of the eyeball and its adnexa before any proposed operative measures are resorted to.

Ocular tuberculin tests conscientiously applied and giving positive determinative results, should, whenever possible, be followed in part or in whole by tuberculin therapy.

(To be continued.)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Twenty-first Annual Meeting, held at Baltimore, Sept. 22-2
1908.

The President, Dr. E. Gustav Zinke, Cincinnati, in the Chair.

Addresses of Welcome.

Addresses of welcome were made by Major J. B. Mahool, on behalf of the city of Baltimore, and by Dr. Brice W. Goldsborough, on behalf of the Medical and Chirurgical Faculty of Maryland.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. William H. Humiston, Cleveland, Ohio; first vice-president, Dr. James Edgar Sadlier, Poughkeepsie, N. Y.; second vice-president, Dr. William A. B. Sellman, Baltimore, Md.; secretary, Dr. William Warren Potter, Buffalo, N. Y. (re-elected); treasurer, Dr. X. O. Werder, Pittsburg, Pa. (re-elected).

Arteriosclerosis of the Uterus.

Dr. Charles M. Rees, Charleston, S. C.: Sclerotic changes in the arterial supply to the uterus are probably of greater frequency than have generally been observed. A pathologic change may take place in the uterus independently of general arteriosclerosis. From the frequent physiologic changes to which the uterine blood supply is subjected, and the resistance offered, sclerotic changes are favored. That sclerosis and even changes advanced to atheroma with calcareous deposits in the arterial walls of the uterine arteries are found localized in the uterus. These changes occur in the vast majority of child-bearing women about the menopause. Arteriosclerosis of the uterus may be the cause of alarming hemorrhages, which are uncontrollable by any of the ordinary measures, and hysterectomy is necessary to save life. Hemorrhages caused by arteriosclerosis of the uterus usually come on at the cancer period of a woman's life and can not be differentiated by any other means than hysterectomy and microscopic examination. A diagnosis of arteriosclerosis of the uterus is difficult to make, and can only be made when it is possible to exclude every other cause of hemorrhage from the uterus, and by microscopic examination of scrapings from the uterus in which sclerosed capillaries are found or, finally, from sections of such a uterus after its removal. Arteriosclerosis, as a definite cause of hemorrhage from the uterus, appearing in women between the ages 40 and 50, and among those who have borne children is of greater importance than has generally been determined. In a fair proportion of cases the hemorrhages from the uterus are in themselves sufficient to endanger the life of a woman and can be made to yield only to hysterectomy. With the uncertainty of diagnosis, even after examinations of a section from the cervix and scrapings from the uterus, which show no evidence of malignancy in women who between the ages of 40 and 50 have borne children, and suffer frequently recurring hemorrhages, hysterectomy is justified.

DISCUSSION.

Dr. C. C. Frederick, Buffalo, N. Y.: I have seen several cases in the past two years of persistent bleeding in which there was no great enlargement of the uterus, and there was no evidence of any fibroid growth, and likewise no evidence from the scrapings of any degenerative changes in the uterus indicative of cancer. Repeated curettement fails to control the hemorrhage. In these cases I have done vaginal hysterectomy, and have advised that it be done by the clamp method. The operation may be done through the abdomen, but I prefer to do it through the vagina, as it is much easier and a shorter operation by this route. There is likewise less shock. When the uterus is not enlarged I advise always that the operation be done through the vagina with the clamp.

Dr. Hugo O. Pantzer, Indianapolis: The localized occurrence of sclerosis of the uterine arteries was described by

Virchow in connection with the case of a woman who had had but one pregnancy, and involution was followed by the usual changes. The frequency of this affection is much greater than is commonly believed, and there is no doubt that many of these patients can be relieved by operations. One patient who would not submit to an operation recovered after profuse hemorrhages. In operating I invariably prefer the abdominal route, but not by the clamp method.

Dr. Frederick Blume, Pittsburg, Pa.: I agree with Dr. Frederick regarding removal of the uterus through the vagina. I have operated on three cases of arteriosclerosis of the uterus by the vaginal route, using the clamp method, in the last two years.

Dr. John A. Lyons, Chicago: I had a case of arteriosclerosis of the uterus in which hysterectomy was recommended by others, but I succeeded in relieving the patient by electricity, using 40 milliamperes for from five to ten minutes at a time, the duration of the treatment extending over a month or more, at the end of which time the hemorrhage ceased.

Dr. Charles G. Cumston, Boston: Some years ago I read a paper entitled "Hemorrhagic Metritis," and in it gave the pathologic findings which are chiefly arteriosclerosis of the small vessels of the uterine parenchyma, likewise considerable sclerosis of the uterus. I advised and practiced at that time vaginal hysterectomy, but was vigorously opposed as being too radical. Since then I have had several cases in which I found the uterus somewhat enlarged, movable, with apparently no lesion in the adnexa, and have operated purely for uncontrollable hemorrhage. Repeated curettement is insufficient. If the uterine hemorrhage continues in these cases after regeneration of the endometrium, the proper procedure is to perform vaginal, and not abdominal, hysterectomy.

Dr. Albert Goldspohn, Chicago: There is great difficulty in making a diagnosis in cases of arteriosclerosis of the uterus; consequently, there is danger of treating some patient under a mistaken diagnosis. Actual cases of arteriosclerosis of the uterus should be treated by hysterectomy, and nothing else. In connection with the vaginal operation, I advise the use of the electric angiotribe or clamp.

(To be continued.)

INTERNATIONAL CONFERENCE ON TUBERCULOSIS.

Seventh Annual Session, held at Philadelphia, Sept. 23-26, 1908.

Dr. Lawrence F. Flick, Philadelphia, in the Chair.

Dr. Lawrence Flick, Philadelphia, opened the meeting by reading the names of members who had died since the last meeting. These were: Dr. Nitschoff, Bulgaria; Professor Hoffa and Professor Lassar, Germany; Dr. Z. J. Hormoet, Netherlands; Professor von Schroetter, Austria; Dr. Radoocci, Roumania; Dr. von Raisz, Hungary. He then read the names of new members.

Addresses of Welcome.

Hon. John E. Reyburn, Mayor of Philadelphia, welcomed the delegates to the city and spoke of the good to be expected as a result of the conference.

Hon. Edwin Stuart, Governor of Pennsylvania: One of the most encouraging signs of the day is the substantial interest which the people are taking in the cause of public health. Pennsylvania, proud as the commonwealth is of its industrial supremacy, is endeavoring to make its supremacy secure and permanent by safeguarding the health of its people. When the Pennsylvania health laws were enacted in 1905, it was hardly hoped that these laws would in three years' time revolutionize sanitary work throughout the state and attract the attention of the whole country on Pennsylvania's plan for the protection of public health. On the inauguration of the State Department of Health, Dr. Samuel G. Dixon, formerly professor of hygiene in the University of Pennsylvania, accepted the office of commissioner of health; to him was entrusted the organization and development of that department, and from a personal knowledge of the work accomplished, I desire to say that the people of Pennsylvania, as well as the medical profession, owe a great debt of gratitude to Dr. Dixon for his untiring efforts and the satisfactory results achieved in the cause of preventive disease. The Pennsylvania legislature early recognized the importance of protecting the lives of its citizens from consumption. The year 1893 marks the date of the first state appropriation for tuberculosis work. The amounts appropriated by the legislature since that date, and the institutions receiving the same are as follows, making the aggregate that has been appropriated by the legislature for the benefit of institutions not wholly under state control for the treatment of tuberculosis, from the year 1893 to the present time, the sum of $552,000:

Rush Hospital for the Treatment of Consumption	$197,000
Free Hospital for Consumptives, White Haven	305,000
State Forestry Department	23,000
Miscellaneous institutions, throughout the commonwealth	27,000
Total	$552,000

When the people of Pennsylvania were confronted by the fact that in 1906, there were 10,623 deaths from tuberculosis in the state, they demanded that some provision be made by the state for the protection of public health from this evil. Pennsylvania, in addition to the appropriation made to institutions not wholly under state control, in 1907 appropriated, for the two fiscal years beginning June 1, 1907, the sum of $1,000,000, to be used by the department of health for the purpose of conducting a vigorous campaign against tuberculosis and to in every way possible relieve the sufferings of the unfortunate victims of the disease. We are actively engaged in erecting a modern tuberculosis village that will accommodate 500 patients and can be extended to provide for 4,000. On the summit of a mountain in Franklin County, 1,800 feet above the sea, protected by forests of stately pines, a sanatorium is being erected. Its cottages for incipient cases have every detail worked out to secure for the patient the greatest possible amount of sunshine and fresh air. Every accessory needed to constitute the most modern sanatorium for tuberculosis sufferers has been planned with great care and attention. I am satisfied that the legislature and the people at large will be glad to give us the money necessary to complete the capacity of the sanatorium to the maximum of 4,000 inmates. It will not be possible, however, for all the poor people in Pennsylvania who are victims of incipient tuberculosis to go to the state sanatorium, even though accommodations could be provided for them. The department of health is solving this problem at the tuberculosis dispensaries, which have been established in every county in the state. To these dispensaries those who are in the early stages of consumption are coming for personal treatment, over 4,000 having already registered.

Your noble work has attracted the attention of the whole civilized world. You are engaged in a stupendous battle. May your efforts result in the extermination of the enemy. The most valuable asset of an individual, state or nation, is health. Says Emerson: "Strong races and strong individuals rest on natural force. Physical exuberance, surcharge of arterial blood, a strong heart and a bounding pulse—they are the basis of the powers that make men and nations great." In the last analysis great human achievement rests on perfect physical health.

Report of Secretary.

Dr. Gotthold Pannwitz, Berlin: The International Tuberculosis Conference is the yearly organization of the International Antituberculosis Association, founded in Berlin in 1902. Its object is to help in the fight against tuberculosis when success depends on the cooperation of the countries belonging to the association. For example: The study of the laws and regulations of various nations, relating to tuberculosis and of all such questions in connection with public health; the adoption of a system of international statistics; investigation concerning the spread of tuberculosis. Twenty-two nations belong at present to this International Association. Every three years the conference has been connected with the General Antituberculosis Congress: In Paris in 1905, now, in 1908, in Washington, D. C.

It is gratifying to note that the fight is becoming more and more general and promises to be successful in the near future. Publications show that the dreadful scourge is beginning to decrease, particularly the recent published report of the German Imperial Board of Health offered to the International Congress on Tuberculosis at Washington. This first result of our common endeavors will encourage all those who have taken part in the common work of humanity *and public health.*

Banquet to Delegates.

The officers and delegates were entertained at a banquet at the Bellevue-Stratford, September 25. Dr. Edgar Smith, vice-provost of the University of Pennsylvania, acted as toastmaster and toasts were responded to by Mayor Reyburn, who spoke on "Philadelphia, The Modern City, and Its Responsibility"; "American Medical Literature" was discussed by Dr. Abraham Jacobi, of New York. Dr. von Leube, of Berlin, Germany, responded for the German government; Dr. G. Sims Woodhead, of England, talked on "The Task of Science." "The Broader Field" was discussed by Dr. Leonard Pearson, of the University of Pennsylvania, and Dr. Robert Koch, of Berlin, Germany, spoke of the "Foreign Delegates." Other speakers were Dr. A. Calmette, *Lille, France, and* Dr. Lawrence F. Flick, Philadelphia.

Social Life and Tuberculosis.

Dr. Gotthold Pannwitz, Berlin, gave a sketch of the conditions of modern civilized life which render easy the spread of such a disease as tuberculosis; provided no systemic precautions against it are taken:

Man is never entirely free and independent of the influence of his neighbors. Only the initiated can distinguish, in the great variety of living matter with which they come in contact, the poisonous from the inert, the dangerous from the harmless, the hygienic from the unhygienic. For the mass of workers and pleasure seekers, this living matter contains innumerable bodily dangers in the form of diseases which can be *avoided by the human mind only* by the aid of fresh discoveries and inventions and by forcing the laws of Nature to do man's will.

Tuberculosis is in the first rank of dangerous accessory phenomena of social life. Every third death during *the working period of life is caused* by tuberculosis; every other workman who becomes incapacitated must ascribe his condition to tuberculosis. Two factors are potent in the perpetuation of the disease: First, individual susceptibility; second, exposure to sources of infection, namely, tuberculous individuals *and* tuberculous food. Regulation of dwellings, public places, mills and factories and food supply is necessary, and also workmen's gardens and public baths. To be deprecated are alcoholic abuses, nervous haste and the neglect of rational rest and Sunday. Antituberculosis education is necessary, starting in the family and the nursery and continued intelligently in school and civil life. The knowledge, widespread in recent years, that tuberculosis is curable, has led in Germany to the reduction of actual insurance risks on workmen's lives by prophylactic treatment of those exposed to infection.

From 30,000 to 40,000 tuberculous workmen pass *every year* through 100 free sanatoriums, in that country, *of whom an* average of 75 per cent. are cured and therefore able to support their families for years to come. In five years the treatment of 159.802 tuberculous persons has added to the earned wealth of the nation almost 250.000.000 marks. According to Dr. Frankel, of Berlin, there is a decrease in the mortality from tuberculosis. In 1886, 88.283 persons died of consumption in Prussia; in 1905, only 64,459 deaths occurred; or, taking the ratio for 10.000 living persons, in 1886, 31.14, and 1906, 17.26. That is to say, in 1906 there were 23,724—or 13.88 in every 10,000—*fewer deaths* from tuberculosis than in 1886. There should be universal establishment *of sanitaria* for children.

The Evolution of the Treatment of Pulmonary Tuberculosis.

Dr. Theodore Williams said: It was not until the time of Laennec, Andral and Bayle, when the clinical history and pathology of tuberculosis were probably investigated, that a proper basis of treatment was found. The duration of life in consumption at that time, according to the estimates of Laennec and Louis, averaged two years, and it was supposed *that the disease assumed a more acute form then than* at the present day, but the clinical descriptions of the physicians of the time did not prove this, but rather the contrary; and it is probable that the short duration of life was due to the lowering treatment rather than the natural course of the disease. It was not until *a tonic system of treatment* was adopted, embracing cod-liver oil, a good dietary and a stimulating climate, that the duration of life in consumption increased from two years to eight years. While fresh air by night and day and an abundant dietary are important in the treatment, it is advantageous to introduce in suitable cases graduated exercise and labor. By employing exercise in early cases it is possible at the close of the sanitarium treatment to return the individual in a fit state for his ordinary labor. Women are set to graduated labor in the same way as men, but their exercises and their work are of a lighter character. While the system of graduated labor does wonders for the bodies and especially the muscles of patients, it has a most beneficial effect on their minds. Depression and gloom give place to cheerfulness and hope. The discovery that they can do honest, useful work without suffering, and that day by day working powers increase, has a most encouraging effect on their spirits. For patients in more advanced stages passive exercise in carriages or sailing in boats is advisable, and riding is to be recommended. The high altitude treatment of tuberculosis and its adoption in early cases has been most successful and its results have surpassed those of any other system. It leads to general invigoration of the patient, to increase of weight and reduction of symptoms, but especially to increase of lung surface, which causes enlargement of the thorax, as proved by the cyrtometric measurements of patients.

Patients with consolidation profit most, but those with *cavity formation* also do well under this treatment which has the advantage of showing few examples of relapse. In nine patients administration of antituberculous serum derived from a horse, resulted unfavorably in the advanced cases, but in the early cases of limited disease, free from fever and complications, considerable advantage of its use was shown. The history of consumption has shown that more can be accomplished by measures which augment and reinvigorate the resisting powers of the patient than by those which aim at the destruction of the pathogenic germ.

Dr. Lawrence F. Flick announced that the number of members of the board of managers was increased from five to twenty.

(To be continued.)

COLORADO STATE MEDICAL SOCIETY.

Thirty-Eighth Annual Meeting, held at Denver, Sept. 8-10, 1908.

The President, Dr. H. B. Whitney, Denver, in the Chair.

The first two days of the meeting were devoted to general sessions, and the third day to section work.

Officers Elected.

The following officers were elected: President, Dr. P. J. McHugh, Fort Collins; first vice-president, Dr. D. H. Cover, Denver; second vice-president, Dr. R. G. Thompson, Trinidad; third vice-president, Dr. C. H. Graves, Canon City; fourth vice-president, Dr. O. P. Chippy, Saguache; secretary, Dr. Melville Black, Denver; treasurer, Dr. George W. Miel, Denver; councilors, Dr. C. W. Russell, Monte Vista, and Dr. Carl Johnson, Montrose; delegate to American Medical Association, Dr. Edward Jackson, Denver; alternate, Dr. George H. Stover, Denver; publication committee, Dr. W. A. Jayne and Dr. Melville Black, Denver.

President's Address.

Dr. H. B. Whitney, Denver: The time has come when humbug should cease; when the innumerable popular fallacies in regard to remedial agents should give place to scientific knowledge, and when every practitioner should attempt not only to cure, but also to enlighten his patient as to the natural course of disease, and the part played by Nature in the restoration of normal conditions. The ideal physician should be not merely a fine diagnostician, but a man of truth. The opulence of the surgeon and specialist is in contrast with the modest and inadequate income of the general practitioner The question of fees of the general practitioner should be given consideration by county societies, and I protest against the enormous surgical fees frequently charged, which are little less than a disgrace to the whole medical profession. The practice of sharing fees simply because a patient has been referred should be condemned. I should be glad to favor some general agreement that in all capital operations, at which the family physician is present, a joint bill shall be rendered, of which the physician is to receive not to exceed 15 per cent. The by-laws of the society should be amended so that if the local society expels a physician, membership will be retained until his appeal is passed on. Too often in the smaller societies jealousy and like causes procure expulsion of a member unjustly. (This recommendation was referred to a committee, who reported against a change of present bylaws.) I recommend the establishment of a bureau of publicity to teach the plain facts of medicine to the public, either through the medium of popular lectures, the public press, or both.

Abuse of the Sharp Uterine Curette.

Dr. J. F. Coleman, Montrose: Whoever writes the full story of the sharp curette here will open a chamber of horrors that has few, if any, equals in the annals of surgical blundering, and I recommend doing away with its use entirely.

Myocardial vs. Endocardial Changes as a Cause of Death.

Dr. O. M. Gilbert, Boulder: There is general lack of the frequency and importance of myocardial disease, and there is difficulty in distinguishing it from certain nervous affections referable to the heart.

DISCUSSION.

Dr. S. Simon, Denver: Radiocardiograms devised by Kraus and Steyrer enable the practitioner to differentiate changes of myocardial character from those purely functional. When the apparatus is simplified and more commonly used the difficulty of diagnosis of myocarditis will be greatly diminished.

Dr. O. M. Gilbert: I believe that bacterial toxins play a more important part in myocardial troubles than is usually thought, especially those of rheumatism, typhoid and diphtheria. The early murmurs of rheumatism usually attributed to ulcerative or vegetative changes in the valves are more often due to weakening of the myocardium.

Acute Articular Rheumatism.

Dr. W. W. Wilkinson, Silverton: Many cases of acute articular rheumatism are caused by autointoxication and are not primarily bacteriologic. I live in a mining town, at a high altitude, and have conducted a hospital and Russo-Turkish bathroom for the past three years, and my experience convinces me that the cause is as above stated. I believe that etiologically pneumonia is twin brother to rheumatism. I have only had one rheumatic patient who was not a user of either tobacco or liquor, usually both.

DISCUSSION.

Dr. W. T. Little, Canon City: Absolute and prolonged rest in bed is more important than any medicinal remedy.

Reform in Prescribing.

Mr. Charles M. Ford (representing the Colorado Pharmaceutical Society, by invitation): Without question, the propaganda for reform in prescription writing and the incidental annihilation of all secret nostrums and such non-secret nostrums as have nothing to recommend them except that they are ready made and have a short name, is entirely within the medical profession I plead for increased use of the U. S. Pharmacopeia. The importance of medical schools teaching ethical prescribing without the aid of any factory samples or literature should be emphasized, and occasional joint meetings of pharmacists and physicians should be held.

Idiopathic Inequality of the Pupils.

Dr. E. T. Boyd, Leadville: The existence of pupils of unequal size, technically known as anisocoria, is a condition which frequently exists in otherwise apparently healthy individuals Inequality in the size of the pupils—the pupillary reflexes still being preserved—is of pathologic significance in a negative way only. In localities where unequal dilation of the pupils is common this fact should be borne in mind, otherwise by virtue of its presence we would be inclined to arrive at erroneous decisions concerning diagnosis and prognosis. This is particularly true in head injury. Unequal dilation of the pupils is not explained by difference in the intensity of the illumination of the two eyes An isometropia, except in rare instances and of high degree, does not in my experience cause the pupils to be unequally dilated. Five thousand individuals, supposedly in good health, living at Leadville, Colo. (an altitude of over 10,000 feet above sea level), have been observed during the past fifteen years, 50 per cent. of whom have been found to have pupils of unequal size. Idiopathic anisocoria is more common than text book authority indicates, and exists much more frequently in those living at high altitudes.

DISCUSSION.

Dr. Howell T. Pershing, Denver: I have been in the habit, as a routine measure, of observing the pupils in every patient, and have concluded there is often inequality without any particular bearing on the disease in question. On the other hand, there are many cases in which we fear development of meningitis, paretic dementia, tabes, or unilateral disease of the brain of any kind in which inequality may be of great importance. We should distinguish, therefore, between cases in which symptoms are of negative value and those in which the condition may be of great significance. Inequality is often congenital and oftentimes due to an old injury or an old disease, a complete history of the case is necessary.

Dr. Melville Black, Denver: This condition is not frequent in Denver, and I have noticed it only occasionally.

Dr. James Allen Patterson, Colorado Springs: I practiced at sea level before coming to Colorado, and am convinced that this condition is due largely to altitude. The opinion has been confirmed by corresponding with physicians living at different altitudes

Relation Between Retinal Hemorrhages and High Arterial Pressure.

Dr. L. Webster Fox, Philadelphia, gave tabulated results of the investigations in 100 consecutive cases. He concluded as follows: Eighty per cent. of the retinal hemorrhages occur in individuals suffering from a temporary or permanent high arterial blood pressure. This excessive intravascular pressure is apparently the most frequent exciting cause of these hemorrhages Venesection has proved of value, not only in reducing dangerously high pressure, but in acting as a powerful stimulant to a speedy absorption of the clot

DISCUSSION.

Dr. H. G. Wetherill, Denver: These eye lesions have an important significance in their bearing on the general systemic condition which in the past we have failed to appreciate I differ from Dr. Fox in one particular, namely, that the trouble is primarily one of high blood pressure, but that there is a cause back of that. If there is a failure of metabolism, or some condition in the blood, the liver, or the kidneys which is coincident with this high blood pressure, then the high blood pressure is not primary but secondary.

Dr. L. W. Fox: Usually withdrawal of 20 ounces of blood reduces the pressure from 50 to 10 c.mm. The primary object of my paper is to emphasize the importance of venesection in spontaneous hemorrhages anywhere in the economy, especially when the hemorrhages are visible, such as those in the eye or conjunctiva, and also in cases of glaucoma, in conditions in which it would be dangerous to perform an operation for relief of excessive tension.

Etiology, Diagnosis and Treatment of Syphilis.

Dr. Carroll E. Edson, Denver, described in detail the serum reaction of Wasserman, and made the following statement:

The following facts must now be accepted as proved beyond question: 1. The reaction can appear in all stages of the disease. 2. Cases of tertiary lues in practically all instances have given a positive reaction. 3. In all cases in which a positive reaction is found we may make a diagnosis of syphilis, present or past, but in cases of negative reaction syphilis can not be excluded, as in a series of cases (10 to 15 per cent.) which were surely syphilitic the reaction was negative. In such cases the absence of reaction may be explained: (a) investigation undertaken at so early a stage of infection the system has not yet answered with a general reaction; (b) individuals who have formerly had lues, and for a long time have had no symptoms, may have had a healing of the process, and a consequent total disappearance of the antibodies; (c) there may be a certain number of infected persons who do not reply by the production of antibodies. The clinical value of the discovery is inestimable. The possibility of demonstrating the treponema in the primary lesion enables a positive diagnosis to be made at once and the patient to be put immediately on active specific treatment.

Cancer of Pancreas, with Report of a Case, and Specimen.

Dr. C. B. Van Zandt, Denver: In thousands of recorded autopsies, malignant growths of the pancreas were found in less than 1 per cent., carcinoma constituting the majority. According to Mayo, symptoms of cancer usually mentioned in the text-books may also be associated with chronic pancreatitis, but in the latter disease there is more apt to be history of gallstones, longer duration of the disease, less severe and constant pain, and absence of palpable tumor, except in very thin persons. A distended gall bladder with jaundice usually indicates cancer rather than pancreatitis. Diagnosis is difficult. Prognosis is hopeless except with early diagnosis, and operative interference. Korte's surgical results seem to offer ground for decided encouragement.

DISCUSSION.

Dr. E. C. Hill, Denver: Pain in cancer of pancreas is deep-seated, epigastric, usually a little to the left, and is worse when lying on the back. Constancy of this pain is perhaps significant enough to call for operation. Persistent jaundice and tenderness over the gall bladder are important signs, as also clay-colored stools. Laboratory methods would be of special use.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-eighth Annual Session, held at Cambridge Springs, Sept. 14-17, 1908.

The President, **Dr. William L. Estes**, South Bethlehem, in the Chair.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. George W. Wagoner, Johnstown; first vice-president, Dr. James I. Johnston, Pittsburg; treasurer, Dr. Clarence M. Harris, Johnstown; secretary-editor, Dr. Cyrus L. Stevens, Athens.

Bedford Springs was selected as the next meeting place.

The meeting was opened with prayer by the Rev. William A. Cobb, of Cambridge Springs.

Address of Welcome.

Dr. Winters D. Hamaker, Meadville, welcomed the society on behalf of the Crawford County Medical Society, of which he is president

Physicians Must be Sociologists—Their Obligation to One Another and to Society.

Dr. William L. Estes, South Bethlehem, in his presidential address, referred to the importance and immense value of thorough organization of the profession:

Two leading factors in the production of jealousy, discontent and the cheapening of the professional service in the state are hospital abuse and contract practice. The necessity for common requirements for licensure to practice medicine is urgent; and to aid in the accomplishment of legislation to this end is the duty of every legal practitioner. An early, persistent and continuous effort is necessary to prevent prohibitive legislation against animal experimentation. In preventive medicine there must be appropriate methods in regard to venereal diseases, and I desire to emphasize especially the dreadful consequences of belittling the danger from gonorrhea. Organization of a Red Cross Society for service in the event of such a disaster as occurred in San Francisco should be considered. I desire to call attention to the value and absolute necessity of the establishment of postgraduate work, especially among the country societies, not only to maintain the value of the profession to the people, but to uphold the dignity of the profession and to accomplish the mission of physicians as educated men in all the communities of the state.

The Opportunities of the Medical Profession in the Far East.

Dr. Thomas Grier Simonton, Pittsburg, delivered the oration on hygiene:

The interpretation of the word hygiene in its broadest sense to be good for the health of the individual, the community, the country and the whole world. The American Medical Association and the state societies are doing nothing as organizations for the advancement of medicine in the Far East. State societies, universities and medical colleges are the ones to take up this work. The University of Pennsylvania has started such a movement, and Harvard is working along the same lines in India The oath of Hippocrates assumed by every graduate is to relieve suffering humanity throughout the world. Signs of awakening in China show the necessity for medical advancement, such as construction of railroads, establishment of a postal system, the publication of newspapers, the extinction of the graded system of education, and other advances. In regard to leprosy in China, I think that the Medical Society of the State of Pennsylvania might well establish an institute for research, provide asylums and send out young scientific medical men. In regard to Medical Mission Statistics, Philadelphia has one physician for every 350 persons in the thickly populated districts; Pittsburg, one for every 650 people in the East End, while China has one physician for every million people. Medical schools in the United States yearly turn out thousands of students scientifically trained, but the number going to the Far East is very small. There have been translated into Chinese among other medical books Gray's "Anatomy," Norris and Oliver's work on the eye, and Penrose's "Gynecology."

Oration on Otology.

Dr. Fremont W. Frankhauser, Reading, prepared the oration on Otology, which was read by Dr. Samuel Z. Shope of Harrisburg, owing to the illness of the author. Dr. Shope before reading the oration, stated that for the last eight months Dr. Frankhauser had been suffering from infected eyes brought about during his attendance on a charity patient by the patient sneezing, thus throwing infectious material into the doctor's eyes. A resolution was afterward passed expressing the sympathy of the society and its appreciation of the loyalty of Dr. Frankhauser in preparing the oration when ill.

Attention was called to the fact that the otologist of today had advanced in surgery and that abscesses of the brain would be unknown when otologists became sufficiently self-assured to open the mastoid cells, the lateral sinus and the internal jugular vein under aseptic conditions. Every practitioner of medicine should be able to recognize middle-ear disease and to secure its prompt and proper treatment. No field of medicine offered a greater opportunity for preventive medicine than that of catarrhal deafness. The belief was expressed that the medical profession needs not more specialists, but better educated and better trained general practitioners.

Oration on Pediatrics.

DR. THEODORE J. ELTERICH, Pittsburg: Probably no branch of medical science has developed more rapidly in the past two decades than that of pediatrics. The decrease in infant mortality may be attributed not so much to improved methods of treatment as to the education of laymen and physicians in the prevention of disease. There is an ever-growing tendency among women of the so-called upper classes of society to nourish their own offspring, and when there is physical inability to do this keen interest is shown in the principles of artificial feeding. That over-drugging has been and still is responsible for the death of many helpless and hapless infants will be shown by the prescription file of any apothecary. The work carried on by the Association of American Milk Commissions has contributed largely to the reduction of infant mortality.

Some Obstetrical "Kicks."

DR. JEFFERSON H. WILSON, Beaver, delivered the oration on obstetrics:

Does obstetrics receive the attention in medical schools which its importance warrants? Until the graduate in medicine is saturated with the idea that every childbirth is a major operation, that asepsis should be perfect, that the post-partum care is of the utmost importance, there will be lamentable instances of unwarrantable ignorance. Many of the accidents and ills of childbirth could be prevented by careful supervision of the pregnant state. I protest against the abandonment of the abdominal binder. This binder should be applied as soon as possible after delivery and its use continued for at least two months and longer if indicated and then replaced by an elastic belt if the abdomen remains loose and pendulous. The vaginal douche before and after confinement is much misused. In this day and generation of the mad chase after the almighty dollar the average young man, or the busy old man, chafing under the detention of a protracted labor, is too apt to resort to the use of the forceps, rather with a view of terminating the confinement, than to a safe and normal completion of what should be a natural physiologic process. This is probably the most common obstetrical sin. Higher preliminary education is a necessity and as a step in this direction I advocate the "one board bill" that there may be the extinction of the ignorant midwife and the incompetent medical man.

The Mental Aspect of Neurasthenia.

DR. J. E. MCCUAIG, Erie: In primary neurasthenia there is a well-marked mental condition differing from other mental states which resemble it. In this type of neurasthenia the mental state is of the first importance and often the cause of the disease. A correct diagnosis is of the utmost importance and can be made by exclusion and facilitated by consideration of the mental condition which is fundamentally one of fear. This fear may be subconscious and varying in degree. The desire of the patient is to draw from some ulterior source the strength he feels is lacking in himself. He must be taught healthful habits of thought and the outcome will depend on the intellectual capacity of the individual and his ability to control his mental processes. The need of the neurasthenic is a physical morale. He must be taught to depend on his own resources. This attainment is a question primarily of the individual patient and the individual physician. The patient must overcome his dependence on drugs, cultivate a healthful mind which will result in a healthful body and realize that his needed strength and courage can come only from within.

DISCUSSION.

DR. E. E. MAYER, Pittsburg: I wish to emphasize the value of the personality of the physician in the treatment of disease and the need of taking into account the personality of the patient, especially in neurasthenia. I agree with Dr. McCuaig that drugs when given must be given with optimism as a part of what may be called psychic treatment. Many of the advocates of the so-called religio-medical treatment of neurasthenia and other neuroses take the attitude that the condition is merely one of belief. With the failure of this treatment the patients are hopeless and helpless. While medicines in themselves in this class of cases practically do no good, if given with the re-enforcement of the physician's personality and his knowledge of the conditions good will result.

DR. MCCUAIG: My idea coincides with that expressed by Dr. Mayer that in the use of suggestion in this class of cases the patient is merely being supplied with a pair of crutches and being told that he is well. The cure of neurasthenia, however, is not accomplished by supplying a prop. In my experience the prop loses its power and the patient is worse than before.

(To be continued.)

Marriages

ALBERT G. KINBERGER, M.D., to Miss Norma Davis, both of Galena, Ind., September 7.

STRICKER COLES, M.D., to Miss Bertha H. Lippincott, both of Philadelphia, September 17.

EDGAR A. ARTHUR, M.D., to Miss Harriet Bailey, both of Stockton, Cal., September 9.

LORAN E. ORR, M.D., Hull, Ill., to Miss Mary E. Knollenberg of Quincy, Ill., September 9.

DAVID M. GOODWIN, M.D., to Miss Catherine A. King, both of Los Angeles, Cal., September 11.

HENRY D. FRY, M.D., to Mrs. Addison B. Atkins, both of Washington, D. C., September 16.

FRANCIS P. MORGAN, M.D., to Mrs. Elizabeth Andrews, both of Washington, D. C., September 18.

H. A. BRERETON, M.D., Boise, Idaho, to Miss Mary Helen Huleatte of Chicago, Ill., September 16.

GEORGE D. CAMPBELL, M.D., to Miss Eleanor Incher Jones, both of Lonaconing, Md., September 16.

JOHN LOGAN HANKINS, M.D., to Miss Sarah Susan Taylor, both of Century, W. Va., September 16.

THOMAS PATTISON CAMELON, M.D., to Miss Edith Leroy Hartwell, both of Detroit, September 15.

EDWIN SIMPSON GILLESPIE, M.D., to Miss Nellie Gertrude Moulton, both of Wenona, Ill., August 26.

SARA A. JANSON, M.D., and Alister S. Langille, both of Chicago, at Albert Lea, Minn., September 9.

CHARLES R. ELLIOTT, M.D., Seattle, to Miss Maud Muller of Fresno, Cal., at Los Angeles, September 10.

HOWARD ANDERSON SUTTON, M.D., Philadelphia, to Miss Julia Stewart Cummings of Chicago, September 17.

BOYD HENDERSON POPE, M.D., Penalosa, Kan., to Miss Mary Alice Scott of Colorado Springs, September 9.

CHARLES F. KEERL, M.D., Hagerstown, Md., to Miss Mary E. Albert, at Berkeley Springs, W. Va., September 17.

JOHN WILLIAM ROSSER SMITH, M.D., Yale, Ky., to Miss Bessie Tranquilla Omohundro of Keswick, Va., September 9.

JOHN ROBERT ARMISTEAD, M.D., Nanafalia, Ala., to Mrs. Flossie Williams Griffin of Campbell, Ala., September 15.

GUSTAV FERDINAND RUEDIGER, M.D., Grand Forks, N. D., to Miss Abby Brayton of La Crosse, Wis., at Seattle, August 20.

JAMES RAMSEY HUNT, M.D., New York City, to Miss Alice St. John Nolan of Chicago, at Manchester-by-the-Sea, September 26.

HOWARD PRIEST, M.D., Medical Reserve Corps, United States Army, to Miss Katherine M. Dowdy, at Fort Bayard, N. M., September 9.

NATHAN PULSIFER THAYER, M.D., Brooklyn, N. Y., to Miss Gertrude Mary Hill of Brookline, Mass., at Belgrade, Maine, September 16.

EBEN CLAYTON HILL, M.D., Medical Reserve Corps, United States Army, to Miss Lucy Lovell Atwater of Poughkeepsie, N. Y., September 19.

WILLIAM DUNLOP OWENS, M.D., passed assistant surgeon, United States Navy, to Miss Elsie Seymour, at Lakeville, Conn., September 12.

Deaths

George H. Grant, M.D. Rush Medical College, 1888; a member of the American Medical Association and Mississippi Valley Medical Association; lecturer on surgery in Indiana Medical College and trustee of the Central College of Physicians and Surgeons; surgeon to the C., C. & L. and Erie railroads; president of the Indiana State Medical Association in 1905 and 1906; a member of the medical board of Reid Memorial Hospital, Richmond; health officer of Wayne County; physician to the Home for Aged Women and the Lutheran Orphan Asylum; while despondent on account of ill health, is said to have shot and killed himself at his home in Richmond, September 21, aged 42.

John Peaslee Brown, M.D. Harvard Medical School, 1865; a member of the American Medical Association and American Medico-Psychological Association; for thirteen years assistant superintendent of the state hospital at Concord, N. H., and for twenty-six years superintendent of the State Hospital, Taunton, Mass.; a pioneer in the colony treatment for the insane; and an alienist of renown; died at the home of his daughter in Springfield, Mass., September 19, from acute bronchitis, aged 74.

Dwight B. Taylor, M.D. Long Island College Hospital, Brooklyn, 1888; a member of the Indiana State Medical Association; formerly a member of the resident medical staff at National Military Home, Ind.; contract surgeon during and after the Spanish-American War; died September 19 from the effects of a gunshot wound of the head supposed to have been self-inflicted, while despondent from ill health, at Defiance, Ohio, aged 43.

Simon B. Conover, M.D. University of Tennessee, Nashville, 1864; assistant surgeon in the U. S. Marine-Hospital Service during the Civil War; United States senator from Florida from 1873 to 1879; who inaugurated the present quarantine system in Puget Sound, under the Public Health and Marine-Hospital Service; died in St. John's Hospital, Port Townsend, Wash., April 19, from paralysis, after an illness of twelve years, aged 67.

Samuel J. Bumstead, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1862; of Decatur, Ill.; a member of the Illinois State Medical Society; assistant surgeon of the One Hundred and Thirty-first Illinois Volunteer Infantry during the Civil War; a specialist on diseases of the eye, ear, nose and throat; died at the home of his son in Monticello, Ill., September 19, from pneumonia, aged 67.

John Philip Seibert, M.D. Jefferson Medical College, 1875; physician to the Franklin County jail for many years; for about twenty years a member of the school board of Chambersburg, Pa.; proprietor of the Franklin vaccine farm and for more than thirty years interested in the preparation of vaccine virus; died at his home, September 18, from cerebral hemorrhage, aged 55.

Walter Palmer Trimbath, M.D. University of Pennsylvania, 1894; a member of the American Medical Association and of the National Association of U. S. Pension Examining Surgeons; president of the board of examining surgeons for Bedford County, Pa., and physician to the Everett board of health; died at his home in Everett, September 11, from heart disease, aged 46.

John F. Shaffner, M.D. Jefferson Medical College, 1860; assistant surgeon and later brigade surgeon in the Confederate service during the Civil War; for eight terms mayor of Salem, N. C.; and a member of the board of commissioners of the city for eight years prior to that time; died at his home in Winston-Salem, September 18, from heart disease, aged 70.

Alexander Wilder, M.D. Syracuse (N. Y.) Medical College, Eclectic, 1851; secretary of the National Eclectic Medical Association from 1876-1895; in 1872 an alderman of Albany, N. Y.; whose chief work was in editorial, literary and educational lines; died at his home in Newark, N. J., from bronchial phthisis, September 19, aged 85.

Philip Palmer Burrows, M.D. McGill University, 1866; a member of the Dominion Medical Association and American Public Health Association; attending physician to the Ross Memorial Hospital; surgeon-major of cavalry, retired; coroner for the county of Victoria; died at his home in Lindsay, Ont., July 31, from heart disease, aged 66.

John Gilmore Howell, M.D. Miami Medical College, Cincinnati, 1878; of Freeport, Ohio; a member of the American Medical Association; United States pension examining surgeon and local surgeon for the Baltimore & Ohio Railroad; died September 13, at the Flushing (Ohio) General Hospital, after a surgical operation, aged 41.

Charles Franklin Marsh, M.D. University of Michigan, 1869; surgeon of the Twenty-fifth Iowa Volunteer Infantry during the Civil War; for nine years a resident of Pensacola, Fla., and recently made superintendent of the Odd Fellows Sanitarium, Gainesville, Fla.; died at his home September 18, from heart disease, aged 67.

James C. McBean, M.D. Jefferson Medical College, 1895; a member of the American Medical Association; formerly of Applegate, Mich.; house physician of the West Side Hospital, Detroit; died September 16, from injuries received in a collision between his automobile and a street car, nine days before, aged 38.

David M. Goodwin, M.D. Dartmouth Medical School, Hanover, N. H., 1856; for forty-five years a practitioner of Minneapolis; assistant surgeon of the Third Vermont Volunteer Infantry; and later brigade surgeon in the Civil War; died at his home in Los Angeles, September 14, from heart disease, aged 74.

William Nattress, M.D. Trinity Medical College, Toronto, 1882; M.R.C.S., England, 1883; lieutenant-colonel and commander of the Western Ontario Permanent Army Medical Corps; died at his home in Toronto, September 14, a month after an operation for empyema following pleurisy, aged 59.

Richard Charles Smith, M.D. Western University, London, Ont., 1896; a member of the American Medical Association; of Cedar Rapids, Iowa; died at St. Luke's Hospital in that city, September 21, from peritonitis, following an operation for abdominal abscess, aged 41.

James A. Macready, M.D. Medical College of Ohio, Cincinnati, 1859; a member of the American Medical Association; of Monroe, Ohio; for three years a surgeon in the Army during the Civil War; died in Christ Hospital, Cincinnati, September 20, from cholecystitis, aged 73.

Lewis P. May, M.D. Detroit Medical College, 1881; of New Baltimore, Mich.; village assessor for seventeen years; village trustee and health officer and a member of the board of education for fifteen years; died at his home, September 6, from typhoid fever, aged 54.

James Francis Code, M.D. Tulane University, New Orleans, 1896; a member of the Louisiana State Medical Society; professor of pharmacy in the New Orleans College of Pharmacy; died suddenly at his home in New Orleans, September 10, from internal hemorrhage, aged 34.

Peter Wood Hawkins, M.D. University of Maryland, 1852; a member of the Medical and Chirurgical Faculty of Maryland; and at one time state tobacco inspector in the internal revenue service; died at his home in LaPlata, Md., September 17, aged 77.

L. M. Black, M.D. Miami Medical College, Cincinnati, 1871; former secretary of the board of health, U. S. pension examining surgeon, and a member of the city council of Greencastle, Ind.; died at his home July 18, from gastroenteritis, aged 65.

Lloyd G. VanScoyoc, M.D. Homeopathic Hospital College, Cleveland, 1876; formerly dean of Hahnemann Medical College of the Kansas City University; died from heart disease at his home in Los Angeles, September 9, aged 55.

John Davis Covell, M.D. College of Physicians and Surgeons in the City of New York, 1857; a member of the Illinois State Medical Society; formerly of Forreston, Ill.; died in Binghamton, N. Y., September 18, aged 74.

Joseph Burney Mott, M.D. University of Louisville, 1866; a member of the Washington State Medical Association; formerly of Fredonia, Ky.; died recently at his home in Seattle, and was buried September 17, aged 65.

James Stevens Chaplain, M.D. University of Maryland, 1854; a member of the Medical and Chirurgical Faculty of Maryland; died at his home in Trappe, September 12, from carcinoma of the stomach, aged 81.

Willis J. Vaupel, M.D. Hahnemann Medical College, Chicago, 1900; a member of the Iowa State Medical Society, was found dead in his office in Chippewa Falls, Wis., from heart disease, September 9, aged 36.

John Q. Southard, M.D. Western Reserve University, Cleveland, 1866; a member of the American Medical Association;

died at his home in Marysville, Ohio, September 18, from cerebral hemorrhage, aged 78.

Samuel O. Thomas, M.D. Baltimore Medical College, 1902; a member of the Medical Society of the State of Pennsylvania; died at his home in Carrolltown, Pa., September 21, from acute nephritis, aged 33.

Frank W. Epley, M.D. Rush Medical College, 1877; of New Richmond, Wis.; a member and once president of the State Medical Society of Wisconsin; was found dead in a cistern, in New Richmond, September 23, aged 57.

Charles I. Buddeke, M.D. Bellevue Hospital Medical College, 1897; a member of the staff of St. Mark's Hospital, New York City; died at his home, September 18, from hypertrophy of the heart, aged 34.

William C. Pardee, M.D. Pulte Medical College, Cincinnati, 1883; of Cleveland; died at the home of his brother in Ashtabula, September 18, from pneumonia following typhoid fever, aged 54.

Byron LeRoy Stevenson, M.D. Northwestern University Medical School, Chicago, 1901; died at his home in Coulee City, Wash., September 15, from pneumonia, following typhoid fever, aged 32.

John L. Daugherty, M.D. Kentucky School of Medicine, 1892; a member of the American Medical Association; died at his home in Hiattville, Kan., September 17, from tuberculosis, aged 48.

Neal O'Donnell Parks, M.D., L. R. C. P. & S., Ireland, 1860; member of the Rhode Island Medical Society; since 1881 a resident of Ashton, R. I.; died at his home, September 17, aged 74.

John C. Driver, M.D. College of Physicians and Surgeons, Indianapolis, 1871; died at his home in Atlanta, Ind., from malignant disease of the face, September 15, aged 76.

William Thorne, M.D. University of Buffalo, 1850; for many years a practitioner of Hastings, Minn.; died at his home in Covina, Cal., from senile debility, aged 88.

William B. Bowen, M.D. University of Maryland, 1871; a Confederate veteran; of Moorefield, W. Va.; died suddenly at Front Royal, Va., September 10, aged 61.

Zophar F. Guerin, M.D. Starling Medical College, Columbus, Ohio, 1852; was found dead at his home in Columbus, from senile debility, September 15, aged 87.

Harry J. O'Donnell, M.D. Cleveland University of Medicine and Surgery, 1896; died from heart disease at his home in Pittsburg, September 14, aged 37.

Adolph G. Bechtold, M.D. Missouri Medical College, St. Louis, 1890; died at his home in Freeburg, Ill., September 23, from cerebral hemorrhage, aged 42.

Thomas Benton Owings, M.D. University of Louisville, 1886; died at his home in Hamilton, Mont., September 7, from locomotor ataxia, aged 61.

Walter Joseph Brown, M.D. Bellevue Hospital Medical College, 1884; died at his home in Donner, La., June 19, from cerebral hemorrhage, aged 47.

John S. Borneman, M.D. University of Pennsylvania, 1878; died at his home in Boyertown, Pa., July 6, from cerebral hemorrhage, aged 77.

James Clay Parrish, M.D. Hospital College of Medicine, Louisville, 1888; of Hot Springs, Ark.; died at his home August 15, aged 48.

James B. McGaughey, M.D., Winona, Minn., was found dead in his yard, September 29. Further notice will appear in the next issue.

Edward P. Mason, M.D. Vanderbilt University, Nashville, 1901; died suddenly at his home in Hazel, Ky., September 18, aged 34.

Mary Clark (years of practice Mich., 1900); for forty years an eclectic practitioner of Battle Creek; died at her home May 31.

A. von Poehl, M.D., professor of medicine and pathologic chemistry at the Helena Institute, St. Petersburg, died at Berlin, September 10. He was a pioneer in organotherapy, for which he advanced certain new principles. They were described in detail in a recent article in the *Wiener klinische Wochenschrift*, Sept. 3, 1908, as also his "synergetic group" extracts of various organs.

Medicolegal

No Liability in Merely Summoning Physicians.

The Supreme Court of Georgia holds, in the case of Norton vs. Rourke, that an employer who merely summons a physician and requests him to care for an employé, who has suddenly become ill while engaged in his duties and has been thereby rendered incapable of acting for himself, is not, in the absence of an express stipulation between the employer and the employé that the former shall furnish medical aid to the latter, liable for the services of the physician rendered under such circumstances.

The court says that when one summons a physician to care for another, rendered by sudden illness unable to act for himself, and to whom he stands in no relationship which creates an obligation to furnish necessary medical care, and no express undertaking is entered into, then, from the mere summoning of the physician and requesting him to care for the person who is ill, the law does not presume an implied promise by the one so acting to pay for the services of the physician summoned. Meisenbach vs. Southern Cooperage Co., 45 Mo. App. 232; Jesserich vs. Walruff, 51 Mo. App. 270; Smith vs. Watson, 14 Vt. 332; Starrett vs. Miley, 79 Ill. App. 658.

In the last case cited a woman who was, so far as appears from the report of the facts, a stranger to Starrett, ran into his house, wounded and bleeding, and fell there unconscious. He at once called in Miley, a physician, and directed him to the injured woman, and told him to care for her. Starrett also had her carried to a room in his house. No express promise was made by him to pay the physician for the services rendered the woman. It was held that Starrett was not liable for the physician's services.

In Boyd vs Sappington, 4 Watts (Pa.) 247, it was held that a request by a father to a physician to attend his son, then of full age, and sick at the father's house, raised no implied promise on the part of the father to pay for the services rendered.

In Crane vs. Baudouine, 55 N. Y. 256, the plaintiff attended as a physician on the daughter of the defendant, sick at the latter's house. The daughter was of age, married and living with her husband, but temporarily at her father's house, to be under the care of her mother. The defendant was present at the calls, gave the plaintiff a history of the case, and received directions for her treatment. He told others of the visits and of his opinion of the case, assented to calling a consulting physician, and had previously employed other physicians to attend his daughter. The defendant testified that he did not employ or send for the plaintiff. It was held that the defendant was not liable for the plaintiff's services.

In Holmes vs. McKim, 109 Iowa, 245, it was held: "One is not under any implied obligation to pay for the services of a physician called to attend a minor living with his family and supported by him, but not otherwise related to him, though he acquiesced in the attendance and had on a former occasion paid the same physician for attending the same minor, the physician knowing, however, the true relations of defendant and said child." The doctrine is well stated in 22 American and Eng. Enc. of Law, 790.

In Meisenbach vs. Southern Cooperage Co., above cited, Judge Seymour D. Thompson, delivering the opinion, said: "The reason and policy of this rule are obvious. . . . When a person is dangerously wounded and perhaps unable to speak for himself, or suffering so much that he does not know how to do it, . . . any person will run to the nearest surgeon in performance of an ordinary office of humanity. If it were the law that the person so going for the surgeon thereby undertakes to become personally responsible for the surgeon's bill, and especially for the surgeon's bill through the long subsequent course of treatment, many would hesitate to perform this office, and in the meantime the sufferer might die for want of necessary immediate attention. Nor is there a common and fair understanding that the person making the request, or ordering it to be made in behalf of the sufferer, under the circumstances, assumes responsibility for the surgeon's bill."

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York.

September 19

1 *Wounds of the Heart L. L. Hill, Montgomery, Ala.
2 *Treatment of Exophthalmic Goiter A. J. McCosh, New York
3 *Early Diagnosis of Pulmonary Tuberculosis J. Walsh, Philadelphia
4 *Acute Anterior Poliomyelitis W. B. Cadwalader, Philadelphia.
5 Kaolin as a Remedy G. Richter, St. Louis
6 *Length of Urethra W. S. Reynolds, New York

1. **Wounds of the Heart.**—Hill discusses the nature of wounds of the heart, their complications, symptoms, prognosis, and treatment, and reports three cases which ended favorably as the result of surgical intervention. He concludes among other things that every wound of the heart should be operated on immediately. An exploratory operation should be made in suspected wounds of the heart under an anesthetic, preferably chloroform, unless the patient is unconscious and the corneal reflex abolished. The wound should never be probed. Rotter's operation renders access to the heart extremely easy, gives an opportunity of removing any extravasation of blood, and facilitates the inspection of the pleural cavity in reference to the injuries. The heart should be steadied before attempting to suture it, either by carrying the hand under the organ and lifting it up, or, if the hole is large enough, by introducing the little finger, which will stop bleeding and facilitate suture. When the hemorrhage is so profuse as to preclude the possibility of suturing, the heart should be lifted with the right hand gently out of the pericardium, the left hand introduced from below, and the inferior vena cava and its inosculation into the right auricle pressed between the index and ring fingers; by pressing upward the inosculation of the superior vena cava is displaced. Interrupted catgut sutures should be used. They should not include the endocardium and should be tied during the diastole. The pericardium should be sponged out and no fluid poured into the sac, until every aseptic precaution has been taken. The mechanical stoppage of the heart from accumulation of blood in the pericardium should be prevented by aspiration. Tubes are preferable to gauze for drainage. A needle may be removed at once, but a knife-blade must not be touched until the surgeon has bared the heart and is master of the situation.

2. **Exophthalmic Goiter.**—McCosh finds the results of purely medical treatment rather disappointing and those of serum or operative treatment encouraging. One of the strongest arguments advanced in favor of the theory of hyperthyroidism was the fatal result which in the past occasionally followed thyroidectomy. This result was supposed to be caused by the toxicity of the thyroid juice squeezed from the gland during its removal. McCosh does not credit this, but attributes the alarming symptoms to an exaggeration of those of the disease, enhanced by mental shock, blood changes or the anesthetic. He discusses the importance of the parathyroids, and says that while tetany has been said to result from their removal in over 200 operations in which he has never paid any attention to the parathyroid, he has never seen a sign of tetany. All patients should be treated by purely medical means, in his opinion, before resorting to either antitoxins or operations. The most effectual serums are the antitoxin and cytotoxin of Beebe and Rogers. The chief question is how much of the gland to remove. McCosh thinks from 65 to 80 per cent.; and that three of the arteries should be cut and tied. He reports the results of 23 cases of thyroidectomy in his practice. He has had no experience with removal of the sympathetic ganglia and has no confidence in it.

3. **Pulmonary Tuberculosis.**—Walsh discusses in great detail the history, the symptoms elicited thereby, and the general and local symptoms of early tuberculosis.

4. **Acute Anterior Poliomyelitis.**—Cadwalader gives a pathologic study of three cases, and draws the following conclusions:

1. Acute anterior poliomyelitis is essentially an acute polioencephalomeningomyelitis.
2. The process is the same during infancy and adult life.
3. The process is most marked in the lumbar and cervical enlargements of the cord, and frequently may extend upward as far as the cerebral cortex.
4. Interstitial changes predominate and occur together with parenchymatous changes. Parenchymatous changes never occur without interstitial changes.
5. The localization and intensity of cellular infiltration depend on the distribution and vascularity of the area affected.
6. Neuronophagia is an important factor in the destruction of ganglion cells.

6. **The Urethral Length.**—Reynolds gives the result of examination of the length of the male urethra in 22 cases, and finds that the average of his examinations corresponds approximately to those ordinarily accepted, though there was considerable variation in the individual urethral lengths.

New York Medical Journal.

September 19.

7 *Explosion of the Theory of Heredity A. L. Smith, Montreal, Canada
8 *Ischochymia F. H. Murdoch, Pittsburg
9 Cancer of the Rectum (continued). J. P. Tuttle, New York
10 Psychotherapy A. M. Stuart, Elmira, N. Y.
11 Case of Tuberculous Pericarditis; Embolic Hemiplegia Three Days After Paracentesis of the Pericardium M. Manges, New York
12 Skiagrams of Foreign Bodies. Details of Experiments B. Alexander, Budapest
13 Bacterial Treatment of Erysipelas H. A. Duncan and G. M. Illman, Philadelphia

7. **Heredity.**—Smith says that the idea that tuberculosis is hereditary and unavoidable has cost millions of lives in the past and that such lives are now being saved because the whole world has discovered that the disease is contagious and preventable. The change in opinion did not come by chance; it was opposed by many of the ablest pathologists long after it had been accepted by the profession and suspected even by the public. The insurance companies helped to sustain the erroneous belief by insisting in their application form on detailed information as to heredity and taking no notice of the probability of contagion by environment. Cancer, insanity and drunkenness are still held under the ban of the heredity. Smith essays to prove that none of them is hereditary. With regard to cancer he points out the great service that could be rendered to our knowledge of the etiology of cancer if medical directors of insurance companies would follow the example of one medical director and send out the following circular to the physician in charge of each insured patient whose death was reported from cancer:

1. Have any other members of Mr ——————'s family died of cancer? If so who?
2. Was Mr —————— brought in contact with any one suffering from cancer prior to the beginning of his last illness?
3. Had any other person or persons died of cancer in the house in which Mr —————— died? If so state particulars.
4. So far as you can ascertain, have there been any other cases of cancer on the same street and in the vicinity of the house in which Mr —————— died?
5. Are there any reasons in your mind to suppose that the cancer which caused Mr ——————'s illness was caused by an infectious process? If so, kindly state reasons.

Smith believes the efficient agent of cancer to be an ameba, though he admits this is not yet proved. He also blames the insurance companies for handing down a false tradition that insanity is hereditary. He holds that in practically all cases insanity may be attributed to either defective nutrition of the brain or poisoning of the brain. He discusses both of these conditions at length. The belief that certain conditions are hereditary has a deplorable effect in producing a fatalistic belief that they are inevitable, so that no efforts are taken to combat those conditions that may cause their development or militate against their cure. He believes that in insanity to some degree, and very largely in the case of drunkenness, what has been taken for heredity is simply a matter of imitation. If more attention were paid to training and environment and less to heredity, there would be fewer consumptives, fewer people with cancer, fewer insane, fewer drunkards, and fewer murderers.

8. **Ischochymia.**—Murdoch mentions acute ischochymia, the etiology of which, whether gastric paralysis, or pyloric contraction, is undecided, and then discusses the chronic form which is caused by: 1, mechanical obstruction of the pylorus, and, 2, absolute or relative weakness of the expulsive forces, i. e., atonic conditions of the muscularis. He discusses pyloric stenosis at length, and concludes that there is no doubt that gastroenterostomy would be the ideal treatment for all patients with benign stenosis of the pylorus if it were entirely

free from danger, but so long as even a small percentage of patients die as a result of this operation, it is the duty of the physician to employ every available means for the patient's relief before advising surgical intervention.

Boston Medical and Surgical Journal.

September 17.

14 *Non-tuberculous Bone Infections About the Hip Joint A Clinical and Roentgenologic Study. A. T. Legg and A. W. George, Boston.
15 *Analysis of the Symptoms in Forty Cases of Suppuration of the Kidney Pelvis. A. L. Chute, Boston.
16 Necessity of Disinfection After Death or Removal of Tuberculous Patients. H. Jackson, Boston.
17 *State Sanitary Supervision. H. C Emerson, Springfield, Mass.

14. **Hip-Joint Disease.**—Legg and George consider that great harm has been done in diagnosis and treatment by using the term "hip-joint disease" to designate all conditions that attack the hip joint, and accepting the term "hip disease" to mean tuberculosis. They urge the importance of a more careful and scientific nomenclature and classification of affections about the hip joints, taking note of the exact pathologic condition and location of the process. In the out-patient department of the Children's Hospital a two years' investigation has shown many cases of supposed tuberculous joint disease to be pyogenic bone infections, curable with appropriate treatment, with little if any deformity. The Roentgen ray has been invaluable in carrying out this work. Pyogenic infection of bone, though it may occur in the epiphysis, most commonly takes place in the diaphysis, while osseous infection by the tubercle bacillus occurs, with but few exceptions, in the epiphysis. Clinically the symptoms of acute pyogenic infections outside the hip joint, namely, acute onset, rapid thickening of the neck, trochanter and upper shaft, pain, spasm and constitutional symptoms with high white count, will generally easily differentiate this class of cases from tuberculosis. The differential diagnosis of the chronic cases, those produced by a low-grade organism, is, however, much more difficult from a clinical standpoint. The deformity, limitation of motion, spasm and atrophy, may be the same as that seen in tuberculosis of the hip. Thickening is felt earlier than in tuberculosis, and the white count is considerably higher than we find in uncomplicated tuberculosis. There may be no more constitutional symptoms in this class of cases than are seen in tuberculosis. Rotation is of the greatest importance in physical examination of hip cases. With the focus outside the hip joint, rotation may be free, limited or even absent, but if present its character will be normal, while it has a peculiar characteristic when the articular cartilage is affected. In acute pyogenic infections within the joint, classical symptoms of acute joint infections are present, so that acute extra-articular and intra-articular pyogenic bone infections may be diagnosed clinically. Subacute or chronic cases, however, can not, early at least, be differentiated from tuberculosis. Here the Roentgen ray will show the exact location and extent of the process. The authors describe the apparent infection of the periosteum and that of the marrow which are rendered visible by the Roentgen ray.

15. **Suppuration of the Kidney.**—Chute analyzes in tabular form 40 cases of renal suppuration and emphasizes the following points: First, the lack of distinctive symptoms in many renal suppurations; second, the absolute unreliability of negative findings in these cases; last, the tremendous importance of the use of the cystoscope in the study of urinary suppurations.

17. **State Sanitary Supervision.** Emerson refers to the statement of H. I. Bowditch in 1869 that: "The authorities of a state are bound to take care of the public health . . . in order that each citizen may not only have as long a life as Nature would give him, but likewise as healthy a life as possible." Emerson discusses the history of the development of state sanitary supervision and considers the work of the state inspectors with special reference to city conditions—the supply of light and air, cleanliness of factories and workshops, proper removal of dust, ventilation and sanitary conditions of school houses and public buildings, the number and conditions of toilet facilities and the inspections of working minors; also the inspection of clothing made or repaired in tenement houses.

Lancet-Clinic, Cincinnati.

September 12.

18 *Toxemia from the Standpoint of Perverted Metabolism R. W. Webster, Chicago.
19 Perforations of the Stomach and Small Intestines. E. O. Smith, Cincinnati.
20 *Safe and Rapid Method of Removing Adenoids. J. F. Barnhill, Indianapolis.

18. Abstracted in The Journal, Nov. 16, 1907, p. 1707.

20. Abstracted in The Journal, Oct. 26, 1907, p. 1468.

Journal of Experimental Medicine, Lancaster, Pa.

September 5.

21 *Results of the Application of Special Histologic Methods to the Study of Tumors. F. B. Mallory, Boston.
22 The Ocular Tuberculin Reaction in Cattle. E. F. McCampbell and D. S. White, Columbus, Ohio.
23 *Anaphylaxis to Horse Serum. P. A. Lewis, Boston.
24 Study of Proteolytic Ferments of Large Lymphocytes in Case of Acute Leukemia. S. T. Longcope and J. L Donhauser, Philadelphia.
25 *Influence of the Reduction of Kidney Substance on Nitrogenous Metabolism. R. N. Pearce, Albany, N. Y.
26 Enzymes of Tuberculous Tissues. E. L Opie and B. I. Barker, New York.
27 Enzymes of Fibrinous Exudates—The Effect of One Enzyme on Another. B. I. Barker, New York.
28 Complement Fixation in Malignant Disease. C. E Simon and W. S. Thomas, Baltimore.
29 *Analysis of Four Hundred Cases of Epidemic Meningitis Treated with the Antimeningitis Serum. S. Flexner and J. W Jobling, New York.

21. **Tumors.**—Mallory describes, with illustrative plates, various forms of tumor as examined histologically with a view: 1. To determining more exactly than has been done heretofore how each kind of normal cell is characterized, so that it can be definitely distinguished from all other cells, and then applying this knowledge to the study of tumors. 2. To determining the essential cell in each kind of simple tumor and naming of the tumor accordingly 3. To doing away, so far as possible, with all names of tumors in which accidental and secondary features are put first and the true nature of the tumor is lost sight of, such as the names round, spindle and mixed sarcoma, perithelial, angiosarcoma, psammoma, and fibroendothelioma.

23. **Anaphylaxis to Horse Serum.**—Lewis records a series of experiments and discusses the question of hypersensitiveness to horse serum. He concludes that in attempting to determine whether a given serum treatment is or is not dangerous, evidently each species of animal must be separately considered. It is almost needless to point out that the data accumulated since 1893 on the accidents incident to the therapeutic use of horse serum, its uncomfortable sequelæ, and its great benefits, are of much more value, as a guide for future practice, than conclusions drawn from complex experiments on the laboratory animals. It would be a most unfortunate presentation of laboratory results on anaphylaxis which should lend itself to even a temporary or slight reaction against a therapy which has so thoroughly justified itself in the case of some diseases, and which offers such possibilities for the future in the case of others.

25. **Reduction of Kidney Substance.** Pearce reports observations on the effect of removal of kidney substance in dogs, and concludes that the experiments do not support the theory that the kidney furnishes an internal secretion having an important influence on general nitrogenous metabolism. At least, if such a function exists, it is not disturbed by the removal of three-quarters of the kidney substance. The metabolism in excessive kidney reduction is that of inanition dependent on gastrointestinal disturbances presumably due to faulty correlation In this connection, further knowledge concerning the elimination into the intestine of toxic substances is desirable.

29. **Antimeningitis Serum in Epidemic Meningitis.**—Flexner and Jobling analyze 400 cases of epidemic meningitis treated with antimeningitic serum, and express their belief that the cases furnish convincing proof that the antimeningitis serum, when used by the subdural method of injection, in suitable doses and at proper intervals, is capable of reducing the period of illness; of preventing, in large measure, the chronic lesions and types of the infection; of bringing about complete restoration to health, in all but a very small number of the recovered, thus lessening the serious, deforming and permanent consequences

of meningitis, and of greatly diminishing the fatalities due to the disease

Philippine Journal of Science, Manila.

July

30 Prevalence and Distribution of the Animal Parasites of Man in the Philippines: Their Possible Influence on the Public Health P E Garrison, Manila
31 First One Hundred Autopsies at the Philippine Medical School P. K Gilman Manila
32 Condition of the Liver in Schistosomiasis J M Phalen and H J Nichols U S Army.
33 *Diagnosis of African Tick Fever from the Examination of the Blood R P Strong, Manila.
34 *Obstetrics in the Philippines F Calderon, Manila

33 **African Tick Fever.**—Strong reports a study on the diagnosis of the African tick fever by blood examinations, and as a result of his experiments concludes that while theoretically it is easy to distinguish tick fever from typhus, malaria, trypanosomiasis and kala azar by the blood changes, in practice this is at times most difficult, and the individual case may require considerable study before a correct diagnosis can be made

34. **Obstetrics in the Philippines.**—Calderon gives an interesting account of obstetrics in the Philippines, giving instances of the early superstitions, the influence of the missionaries, the influence of the Chinese, and modern advances in the Philippines. He discusses the measures necessary to correct the defective midwifery methods now existing notwithstanding the work that has been going on for some time to lead obstetrics into modern channels, and to eradicate from the minds of the people the charlatanism, superstitions and irrational practices that predominate.

Kentucky Medical Journal, Bowling Green.

August

35 Pneumonia and Its Treatment. G G. Thornton, Lebanon
36 Typhoid—History, Etiology, Pathology R N Fillatrean, Knottsville
37 Management of Typhoid W. R. Burr, Auburn
38 Symptoms and Treatment of a Typical Case of Typhoid G L Barr, Owensboro
39 *Aphasia Complicating Typhoid in a Child H E Tuley, Louisville
40 Purgation and the Use of Cathartics D G Simmons, Adairville.
41 Rheumatism in Children E L Gates, Herndon
42 Case of Myxedema J. W Lee, Boxville
43 Eclampsia L F. Hammonds, Dunnville
44 *History of Case of Col Jack P Chinn vs Foster Milburn Company L M Smith
45 Blood Stains Medicolegally Considered F S McKee, Cincinnati
46 U S P and N F Preparations vs Proprietary Ones A Dimmitt, Louisville
47 Outdoor Life and Prevention of Tuberculosis J G Brooks, Paducah
48 Needs of Temperance Instruction J Martin, Cynthiana
49 Immunity C B Creech Middleburg
50 Empyema W H Smith Danville
51 Medical Treatment of Exophthalmic Goiter F V Williams Frankfort
52 Diabetes Mellitus F M Stites, Hopkinsville
53 Diagnosis of Incipient Pulmonary Tuberculosis C Farmer Louisville
54 Impediments to Progress in the Extinction of Tuberculosis J A Flexner, Louisville

Supplement, Kentucky State Association of Railway Surgeons

55 *Fracture of Long Bones H C Clark Falmouth
56 *Skin Grafting A O. Sisk, Earlington
57 Interesting Cases in Railroad Practice F T Fort, Louisville
58 Relation of the Medical Profession to the Public C H Vaught, Richmond
59 Method of Drainage of Ankle Joint. O H Reynolds Frankfort
60 Syncope, Shock and Collapse C. Thompson Louisville
61 *Legal Relations of the Railroad Surgeon to the Railroad Company, and the Duty of the Injured Person to Make His Loss or Damage on Account of Injury as Light as Possible B D Warfield, Louisville.
62 Exhibit and Report of Case Illustrating Conservative Railroad Surgery R C McChord Lebanon
63 Osteoma. F M Beard Shelbyville
64 Traumatic Neurosis B F Zimmerman Louisville

39. **Aphasia Complicating Typhoid.**—Tuley relates the case of a child 5½ years old, in whom aphasia of a somewhat peculiar character appeared as a complication of typhoid Three or four days after the temperature reached normal the child was noticed to mumble her words, where her speech previously had been all right She did not articulate plainly enough to be understood. She was asked if she wanted a drink of water, and seemed frightened when she could not reply. From this time for three weeks she did not utter a sound At the end of this time she was heard to make a sound; in a few minutes she mumbled unintelligible words, much as she had done at the beginning of the attack. For two or three days this mumbling continued, and by the end of the week she was talking plainly. She did not have to be taught words or their meaning. As soon as she began to articulate she had no difficulty in the least.

44 Commented on editorially in THE JOURNAL.

55. **Fracture of Long Bones.**—Clark describes a device originated by Paul, of Cincinnati, for handling the limb while applying plaster dressing in fractures of long bone. It consists of a Bradford frame, of three quarter-inch piping, 28 inches wide and 6 feet long, over which is tightly stretched a double thickness of cotton cloth, pinned or sewed on. Safety pins 2½ inches apart will support a man of ordinary size, but for a heavy man should be reinforced under the buttocks The patient is put on this frame, the ends of which are placed on a couple of boxes or tables, and he need not be moved again until the plaster hardens Clark describes its use as follows

After the frame is in proper position an incision is made in the cloth with a sharp knife, beginning at the lower border of the ribs and cutting downward about six inches. Then a space of four or five inches is passed, and then the cut is continued down to a point opposite the knee-cap. Another space is jumped and then the cut is again continued down to a point four or five inches below the heel. Incisions are then made in the cloth between the limbs to correspond to those on the outside, with the result that the limb is on a single strip, supported at the knee, buttock and lower border of the ribs, as well as at the heel. The plaster-of-Paris is then applied and while the assistant is making extension, the adhesive strips are put on down to the knee, and, after making a few turns of the plaster roller, a half-inch by quarter-inch iron strip is imbedded in the plaster before it gets hard, extending up to the groin; the strip of iron is allowed to go six inches below the foot and makes a circle around the foot It may be padded with a piece of felt at the top to prevent it from making the groin sore In this position the bar will serve to give an upward push. Then with one half-inch rubber tubing four or five turns are taken around the bar at the bottom, and by pulling down on the rubber, about fifteen pounds' pressure can be obtained, which will last from eight to twelve days without changing Thus there is a constant pull, and the patient can be elevated and can attend to his evacuations with ease The frame can be taken anywhere—out into the yard or into another room—without ever disturbing the patient nor is he disturbed by people running against the extension If an ambulatory splint is desired, the iron bar is allowed to come down as far as necessary below the knee, and the patient can be allowed to get up at once.

56 **Skin Grafting.**—Sisk recommends the early employment of skin grafting in wounds in which there has been much sloughing of skin so as to avoid having scar tissue to deal with

61 This article also appeared in the *Louisville Monthly Journal of Medicine and Surgery*, July and August

California State Journal of Medicine, San Francisco.

August

65 *Stimulants Used in Cooking D W Montgomery, San Francisco
66 *Removal of Tonsils Under Local Anesthesia E C Sewall, San Francisco
67 Peripheral Endarteritis G B N Clow, Oakland
68 *Status Lymphaticus with Particular Reference to Anesthesia in Tonsil and Adenoid Operation W H Roberts Pasadena
69 *Overproduction of Doctors H S Delamere, Ferndale
70 *Underlying Principles of Antiplague Measures R. Blue San Francisco
71 Obstetrical Reminiscences H E W Barnes, Santa Ana

65 **Stimulants in Cooking.**—Montgomery discusses the history of condiments and their relation to diseases

66 **Removal of Tonsils.**—Sewall discusses the question of removal of tonsils, and holds that when removal is indicated the tonsil must be extirpated in its entirety, if necessary, under a general anesthetic. He has found, however, that local anesthesia, by the injection infiltration method, which he describes, is usually satisfactory. He uses the cold wire snare

68. **The Status Lymphaticus in Adenoid Operations.**—Roberts discusses the status lymphaticus with particular reference to the use of *anesthetics in operations for the adenoids*, and gives a list of deaths, 17 in number, that have occurred in the neighborhood of Los Angeles, as the result of anesthetics. He draws conclusions as follows:

1. We should always keep in mind the possibility of the status lymphaticus being *present in children who have enlarged superficial* lymph glands, adenoids, or signs of rachitis.
2. In the status lymphaticus, all anesthetics are dangerous, but particularly chloroform.
3. In all operations on children avoid chloroform.
4. In operations for the removal of tonsils and adenoids, ether is the safest anesthetic.

69. **Overproduction of Physicians.** Delamere points out that much of the unprofessional, degrading, and even criminal *conduct that is to be found* among some practitioners of medicine is due to the overproduction of physicians. The doctor may have started with the highest ideals and the noblest conception of the physician's duty, but the lack of the necessities of life leads him first to outrage his feelings with commercialism, from which the road downward is easy. Delamere's remedy is to stop overproduction. It is the number of medical colleges that causes the trouble, and we need legislation to correct the medical college evil, instead of that which prevents the graduate from following the profession in which he thinks he is educated. Every medical student should study at least one year in a physician's office before he is permitted to enter a medical college. This would result in a considerable weeding out of unfit candidates. Delamere suggests *that the physicians of each state should select by vote, taken* in the county societies, one medical college to which they will recommend their students, and colleges which can not be legislated out of existence will have to close for lack of victims. At present all our legislation deals with the poor victim after the medical college has got his last cent. Instead, we should have laws dealing with the colleges. He further recommends that the American Medical Association should send circulars to all the high schools, giving the graduates correct information as to the exact conditions of the professions of medicine and dentistry.

70. **Antiplague Measures.**—Blue discusses the relations of the rat and the flea with plague, the various forms of plague immunization, and the working of a plague campaign, and *concludes that the time has come when we should have a* standing sanitary corps of trained men ready to take the field against any epidemic disease. Such an organization would pay for itself many times over in the saving of human life and the prevention of expensive quarantine.

University of Pennsylvania Medical Bulletin, Philadelphia.

September.

72 *Ideas and Ideals in Medicine S. J. Meltzer, New York.
73 Anomalous and Pathologic Conditions of the Cerebral Vascular System, with a Discussion of the Pathogenesis of Cerebral Thrombosis. D. J. McCarthy and M. K. Meyer, Philadelphia.
74 *Leucocytes in Diphtheria Before and After the Administration of Antitoxin. H T. Karsner, Philadelphia.

72. This article appeared in The Journal, May 16, 1908.

74. **The Leucocytes in Diphtheria.**—Karsner reports investigations into the condition of leucocytes in diphtheria, before and after administration of antitoxin in 13 cases of clinically undoubted diphtheria. His conclusions are as follows:

1. Diphtheria is accompanied by a varying degree of hyperleucocytosis, usually moderate. Occasionally hyperleucocytosis may be absent in extremely toxic or extremely mild cases.
2. The differential counts in the leucocytoses of diphtheria show proportions of polymorphonuclear and mononuclear cells consistent with the grade of leucocytosis. In these leucocytoses the eosinophiles are *present in unusually small numbers*, and the myelocytes, basophiles in moderately small numbers.
3. Neither the degree of leucocytosis nor the proportions of any of its constituent types of cells indicates, except within very broad lines, the severity of the infection or the outcome of the disease.
4. The administration of antitoxin has no appreciable effect on the degree of the leucocytosis, the proportions of its constituent types of cells, or the staining reactions of these cells in dry preparations, stained either by Wright's method, Ehrlich's triacid mixture, or hematoxylin and eosin.

Illinois Medical Journal, Springfield.

September.

75 Diet in Tuberculosis. F. Tice, Chicago.
76 Climate as a Factor in Treatment of Tuberculosis. A. G. Shortle, Albuquerque, N. M.
77 *Present Status of the Relation of Bovine to Human Tuberculosis C. J. Whalen, Chicago.
78 Tuberculosis of the Kidney. L. W. Bremerman, Chicago.
79 *Practical Application of Food Values in Every-day Practice in the Nutrition of Children from the Age of Nine Months to Puberty. J. Milligan, Jacksonville, Ill.
80 *The Ophthalmoscope in General Practice. C. M. Jack, Decatur.
81 *Subjective Sensations of Smell and Their Significance. H. Kahn, Chicago.
82 Study of Diagnosis and Pathology Should Not Lessen Our Confidence in the Intelligent Use of Drugs. T. W. Bath, Bloomington.
83 *Some Use of the X-Ray in the Hands of the General Practitioner. G. S. Edmondson, Clinton.
84 New Public Charity Epoch in Illinois. W. C. Graves, Springfield.
85 Four Hundred and Six Cases of Alcoholism. J F. Hultgen, Chicago.

77. This article is published also in the *Chicago Medical Recorder*, August, 1908.

79. Abstracted in The Journal, June 6, 1908, p. 1932.

80. Abstracted in The Journal, June 27, 1908, p. 2153.

81. **Subjective Sensations of Smell.**—Kahn discusses the etiology of parosmia, dividing it into extranasal and intranasal. Extranasal causes are: 1, *anatomic changes*; 2, *infections*; 3, drug poisoning; 4, neuroses. Intranasal causes are: 1, foreign bodies in the nose; 2, changes in the mucous membrane; 3, changes in the bone; 4, sinus disease (a) acute, (b) chronic, the latter being either open or closed. Kahn discusses these in detail. Parosmia may be one of the first symptoms of insanity. He concludes that parosmia is in almost all cases due to a definite pathologic condition and in a large proportion of cases to suppuration of the accessory sinuses of the nose, mostly of the antrum of Highmore.

83. Abstracted in The Journal, June 13, 1908, p. 2016.

Detroit Medical Journal.

August, 1908.

86 Scope and Limitations of Gastric Surgery. J. B. Deaver, Philadelphia
87 Lienteric Diarrhea. F. C. Penoyer, South Haven, Mich.
88 Tonsillitis R. O Semmes, Camden, Ala.
89 *Dog Bites. H Baker, Detroit
90 Rare Cases of Vesical Calculi. J. K. Marden, Marsovan, Turkey-in-Asia.

89. **Dog Bites.**—Baker enters a plea against the idea that every dog bite has to be cauterized, which he compares with the old idea that every patient with asthenic fever had to be bled. While every dog bite is a serious matter, by tying up the dog and watching him we can weed out the small number of bad cases. Taking the patients within a reasonable time—two or three weeks for the general run, and a few days for face cases—the *Pasteur treatment is reliable*, and as no one would care to rely on primary disinfection of the wound and neglect immunization if the dog developed the disease, the cautery becomes of little use. It should be used, however, if *the Pasteur treatment is out of the question*, and if the dog is unknown or *is not under proper restraint for observation*. If there is any reason to suspect that the dog is rabid, the immunization treatment should be applied at once. In this case there is a gain in safety from cauterization, but in the general run of bites the cautery is unnecessary, increases scarring, leaves necrotic tissue to delay healing and to assist infection, and increases the degree and duration of disability. Suturing is bad and should be avoided as much as possible. When it is necessary to cauterize, nitric acid should be used, and the cauterization should be done thoroughly, under anesthesia if need be.

Cleveland Medical Journal.

August.

91 Medical Ethics. F. C. Shattuck, Boston.
92 Nervous Control of the Production of Sugar in the Animal Body. J. J. R. MacLeod, Cleveland.
93 *Restoration of Intestinal Continuity Following Artificial Anus. J. Y. Brown, St. Louis.
94 Recent Advances in Neurology. W. B. Laffer, Cleveland.
95 Carcinoma in High Life. H. E. Handerson, Cleveland.

93. **Restoration of Intestinal Continuity Following Artificial Anus.**—Brown reports three cases in which he *performed* bilateral intestinal exclusion for the relief of artificial anus. He summarizes its advantages as follows: In cases in which an artificial anus has been made at the hernial site for relief of strangulated hernia, the irritation resulting from the continuous fecal flow brings about a contraction at the wound which virtually cures the hernia. Any operation which neces-

sitates a disturbance of this cicatrix by any attempt to restore the intestinal continuity at the hernial site should not be made. The operation of Dupuytren is a blind and unsurgical one, and the process of restoring the intestinal continuity by this method is slow and unsatisfactory. Intestinal exclusion can be accomplished without disturbing the hernial site, and the restoration of the intestinal continuity is accurate and immediate. Contrary to what is generally believed, the operation is not complicated by adhesions. In none of the reported cases was there any difficulty whatever in carrying out the steps of the operation.

Journal of the Medical Society of New Jersey, Orange.

September.

96 *Influence of Overweight and Underweight on Vitality. B. Symonds, New York.
97 *Encouragements in the Present Status of the Milk Problem. A. McAlister, Camden.
98 *Remote Pain Following Abdominal Operations. W. E Darnall, Atlantic City.
99 Bronchial Asthma. J. H. Buchanan, Plainfield.
100 Therapeutic Application of Dry Hot Air. E. C. Corson, Bridgeton.
101 Relative Importance of the Fitting of Glasses in Ophthalmic Practice L. Emerson, Orange.

96. This article was published in the *Medical Record*, Sept. 5, 1908, and was abstracted in The Journal, Sept. 19, 1908, p. 1032.

97. **The Milk Problem.**—McAlister writes his paper not to favor a wholesale and indiscriminate return to the use of raw market milk—that would be unwise and the teaching unsafe—nor to plead for the use of none but whole milk in general substitute feeding—that would often entail a needless hardship—but to urge the use of only ideal whole milk for the very young and delicate. In his practice simple methods of dilution or modification, possible in any home, yield superior results because of the greater ease with which fresh whole milk can be digested. Finally, in every market this ideal milk may be had for the price of the searching. The market that falls short can not be shown up too early or too relentlessly.

98. Abstracted in The Journal, Aug. 22, 1908, p. 700.

Albany Medical Annals.

September.

102 Report of Troy Tuberculosis Class. H. W. Carey, Troy.
103 The Guest, or Personal Experiences of a Patient in a Hospital for the Insane, Told by Herself (continued).
104 Surgical Treatment of Tonsils and Adenoids. A. H. Brownell, Oneonta, N. Y.
105 *Relative and Absolute Signs of Pulmonary Tuberculosis. E. G. Whipple.

105. **Pulmonary Tuberculosis.**—Whipple discusses the relative and absolute signs of pulmonary tuberculosis. Most of our useful information comes from symptoms, past and present, such as a history of presence of cough over any protracted period. The examination of sputum for early diagnosis he holds of little value, and would consider it only after more important questions are answered. Frequent recurrent colds are always suspicious, and especially so with a slight cough at intervals. So-called idiopathic pleurisy is to him tuberculosis, and he would regard it as belonging among the absolute signs. Loss of weight is of importance, if noted, but its absence does not exclude tuberculosis. Loss of appetite and impaired digestion may be early subjective symptoms. Fever is usually present, but is most easily overlooked. The pulse of early tuberculosis may be rapid, and is generally of somewhat lower tension than normal. Hemoptysis is generally due to tuberculosis; it may be early or late. Night sweats do not seem to him of much importance in early diagnosis. Dyspnea is not a symptom of early tuberculosis in the majority of cases. Pain in the chest may be observed early, or may be absent throughout. The history and symptoms and the physical signs when considered separately are relative, but when considered together, in most cases become absolute. The average man in practice knows too little of the subject of tuberculin. Inspection many times gives decided information, but as a rule little of value is derived from inspection of the chest in the incipient case. Percussion is of greater value to the expert than to the general practitioner. Auscultation is of greatest importance in recognition of physical signs. Palpation and mensuration seldom give important data. In many cases incipient tuberculosis exists with no physical signs, but Whipple thinks that the failures to recognize the disease early are, as a rule, due to inability to recognize the physical signs when they do exist. The author lays emphasis on the scarcity and unimportance of the absolute signs, and the many relative signs, which, with the increasing importance given to this disease, are rapidly becoming absolute as a symptom-complex.

Military Surgeon, Carlisle, Pa.

September.

106 What Is the Most Effective Organization of the American National Red Cross for War and What Should Be Its Relations to the Medical Departments of the Army and Navy? H. I. Raymond, U. S. Army.
107 Medical Service of the United States Marine Corps. F. L. Benton, U. S. Navy.
108 *Observations on *Treponema pertenuis* (Castellani) of Yaws, and the Experimental Production of the Disease in Monkeys. P. M. Ashburn and C. F. Craig, U. S. Army.

108. An article by these authors on the same subject appeared in the *Philippine Journal of Science*, October, 1907, and was abstracted in The Journal, Feb. 29, 1908, p. 728; the conclusions given are the same as in the present article.

Maryland Medical Journal, Baltimore.

September.

109 *Trend of Current Psychiatry. C. B. Farrar, Baltimore.
110 *Preliminary Report of a Case of Resuscitation of the Heart by Subdiaphragmatic Massage. C. S. White, Washington, D. C

109. **Current Psychiatry.**—Farrar says that under the juvenile court system inaugurated in Chicago in 1898, the criminal act becomes simply the expression of the imperfect or unwholesome functioning of an individual human mind. The idea of right and wrong as crystallized entities falls into the background. The question is no longer one of punishment, but of treatment, and this, in turn, is a matter of probation. Unlike the penalty whose term or quantity is fixed in advance, the character and duration of the detention and treatment are made to depend on the conditional progress of the individual case. It is the application of this same individual method which promises most for the immediate future in psychiatry, which is so closely allied to criminology. Farrar points out three common sources of error in the obtaining of evidence on which to base a judgment of insanity: 1. The informant, who may have interested motives or be lacking in accuracy. 2. An interview to determine a person's mental state usually takes place under unnatural conditions which may obscure the actual fact. Medical artifacts certainly occur, and must be distinguished from clinical signs. Mathematic and other stereotyped "mental tests" are particularly unsafe. They have all the conditional unnaturalness of the psychologic experiment, and when thrust on an individual said to be insane, their results must be taken with a very generous grain of salt, if at all. 3. Assumed symptoms of alienation from the viewpoint of the examining physician may in fact represent the norm of the individual examined. Constitutional traits, whether wholesome or not, should not be mistaken for acquired pathologic characteristics.

110. **Resuscitation by Heart Massage.** White reports the case of a boy of 12 in whom life seemed extinct after chloroform administration, notwithstanding the application of the Trendelenburg position and artificial respiration by the Laborde and Sylvester methods. The abdomen was opened from the ensiform cartilage to the umbilicus and compression of the heart through the diaphragm with the right hand, about twenty-five times a minute, was practiced, the left hand being on the thorax over the heart. After about seven minutes the apex beat was distinct. The operation was completed at 1 p. m. The patient had convulsions at 2, 3 and 5 p. m. He died at 9 a. m., twenty hours after resuscitation. This makes the fourth reported case.

Denver Medical Times and Utah Medical Journal.

September.

111 *Consanguinity in Relation to Ocular Disease. G. F. Libby, Denver.
112 Acute Catarrhal Conjunctivitis. M. Black, Denver.

113 Reflex Eye Movements—A Differential Sign in Ocular Palsies. F. A. Davis, Denver.
114 Laryngeal Diphtheria. F. E. Waxham, Denver.
115 Forty-one Cases of Deflection of the Nasal Septum, with Methods of Correction. E. W. Collins, Denver.

111. **Consanguinity and Ocular Disease.**—Libby discusses the relation between consanguinity and certain forms of eye disease. There can be no doubt that consanguinity increases hereditary tendencies to degeneration. The diseases that appear *particularly associated with consanguinity* in marriage are retinitis pigmentosa, night blindness and albinism. These three diseases deal with abnormalities of pigmentation, and pigmentation is closely allied with fundamental life processes.

Journal of Cutaneous Diseases, New York.

September.

116 *Tropical Forms of Pityriasis Versicolor. A. Castellani, Colombo, Ceylon.*
117 Tinea Imbricata and Its Treatment. A. Castellani, Colombo, Ceylon.
118 Tinea Intersecta. A. Castellani, Colombo, Ceylon.
119 *Large Doses of Quinin in Dermatitis Exfoliativa. W. H. Mook, St. Louis, Mo.

119. **Quinin in Dermatitis Exfoliativa.**—Mook reports six cases of dermatitis exfoliativa and remarks thereon as follows: In all the cases embodied in the report the drug was given in large doses, and the tolerance in all of them was very striking. The urine was examined, and no untoward indications, such as hematuria or albuminuria, were observed, even when the dose ran as high as in the third case (pityriasis rubra), in *which from 80 to 85 grains were given during a period of* twelve hours. In these cases no attention was paid to slight deafness, and the dose was reduced only when the tinnitus aurium was pronounced. The effect in all cases was noticed in a few days, and it would be difficult to explain such rapid subsidence of exfoliation of the skin, and the reduction of erythema, and edema, when present. The slight relapse of the skin condition in the third patient when the dose was reduced from 60 to 20 grains a day, and the rapid improvement following an increase in the dose, was significant of the fact that results could only be obtained with large doses.

Journal of the Tennessee State Medical Association, Nashville.

August.

120 *Disposition of the Appendiceal Stump. R. M. Ricketts, Cincinnati.
121 *Practical Deductions in the Diagnosis and Treatment of Appendiceal Infections. W. D. Haggard, Nashville.
122 *Colic. W. J. Breeding, Ravenscroft, Tenn.
123 *Treatment and Prevention of Tuberculosis by Tuberculin Immunization. W. Litterer, Nashville.

120, 121, 123. Abstracted in THE JOURNAL, May 2, 1908, p. 1453.

122. Abstracted in THE JOURNAL, April 25, 1908, p. 1373.

Ophthalmology, Milwaukee, Wis.

July.

124 *Three Cases of Sarcoma of the Chorioid. C. W. Le Fever, Philadelphia.
125 *Tear in the Retina. An Unusual Ophthalmoscopic Picture. P. Fridenberg, New York.
126 Small Sarcoma of the Ciliary Body Showing Unusual Manifestations of Malignancy. F. H. Verhoeff, Boston.
127 *Treatment of Sympathetic Iridocyclitis. E. Borghetti, Wellington, New Zealand.
128 Prenatal Iridocyclitis. Buphthalmos. Inherited Syphilis. S. D. Risley, Philadelphia.
129 Hypopion Iritis, Associated with Epidemic Cerebrospinal Meningitis. F. Tooke, Montreal, Canada.
130 Rare Form of Complicated Cataract. W. Zentmayer, Philadelphia.
131 Management of Squint. A. A. Bradburne, Southport, England.
132 Illuminated Spud. A. C. Snell, Rochester, N. Y.
133 Diaphanoscopy of the Eye. H. V. Würdemann, Milwaukee.
134 Vibratory Massage in Eye Disease. L. Connor, Detroit.

124. **Sarcoma of the Chorioid.**—Le Fever reports three cases of this rare condition, all of which occurred at the usual age of malignancy. The rate of development varies according to the nature of the growth, the small round cells being the most malignant and rapid. He discusses the time of retinal detachment and the question of recurrence. With regard to diagnosis he considers that the advice to puncture the sclera is distinctly dangerous. Enucleation is to be recommended as early as diagnosis can be made.

125. **A Tear in the Retina.**—Fridenberg reports a unique case presenting an appearance of a rent in the retina, though there is no actual means of proving it to be such. The hypothetical diagnosis of retinal tear depends on certain facts in the previous history, on the ophthalmoscopic picture, and on the analogy of fundus conditions suggesting the one described. Hypothetically the pathogenesis of such a tear may be explained by the supposition of a small local accumulation of fluid in the superficial layers of the slightly detached and edematous retina, which finally made its way through the few *thin layers remaining* between it and the vitreous, and escaped into the interior of the globe. Such an amount of serum might easily be absorbed without leaving any trace in the shape of vitreous opacities, nor would it escape with sufficient force to displace the retina immediately surrounding the tear, or even greatly to evert the edges of the tear itself.

127. ***Sympathetic Iridocyclitis.***—*Borghetti* discusses the pathology of this condition and says that in his opinion the ophthalmic surgeon as well as the general surgeon must dare something. Sympathetic inflammation should be viewed and treated as all suppurating inflammations of the body are viewed and treated, namely, by rest, blood letting, and elimination of pus. Rest is best accomplished by removing the lens. A very large iridectomy will permanently deplete the ciliary body. Practically Borghetti suggests that the whole iris be cut away. The elimination of pus may be effected by an incision in the sclera and the removal of practically the whole iris, thus restoring the filtration of liquids to normal and converting the spaces formerly occupied by the iris and the lens into one large cavity.

Wisconsin Medical Journal, Milwaukee.

August.

135 Congenital Laryngeal Stridor. Apparently Due to an Enlarged Thymus. A. W. Myers, Milwaukee.
136 Diagnosis of Rabies. K. W. Smith, Madison.
137 Medical Expert Testimony a Delusion. H. Philler, Waukesha.
138 *Traumatic Appendicitis. H. O. Caswell, Fort Atkinson.*

Journal of the Indiana State Medical Association, Fort Wayne.

August.

139 Diagnosis and Treatment of Fluctuating Tumors of the Female Pelvis. G. H. Grant, Richmond.
140 Technic of Hare-Lip and Cleft-Palate Operations. J. R. Eastman, Indianapolis.
141 Early Diagnosis of Inguinal Hernia. B. Van Sweringen, Fort Wayne.
142 The Puerperal Perineum: Its Protection and Repair. M. I. Rosenthal, Fort Wayne.
143 Reasons for the Radical Operation in Inguinal Hernia. T. B. Eastman, Indianapolis.

Bulletin of American Academy of Medicine, Easton, Pa.

August.

144 The Doctor and School Advice. T. D. Davis, Pittsburg, Pa.

Journal Missouri State Medical Association, St. Louis.

August.

145 Pathologic Anatomy of the Gall Bladder and Biliary Passages. W. Bartlett, St. Louis.
146 Symptoms of Gallstone Disease. R. Hill, St. Louis.
147 Surgery of the Gall Bladder. T. E. Potter, St. Joseph.
148 Examinations of the Feces as a Routine Procedure. J. S. Meyer, St. Louis.
149 Pneumonia. T. Brown, Hamilton.
150 Cerebrospinal Meningitis. G. W. Goins, Breckenridge.
151 Sanitary Construction and Furnishing of Churches, Halls and Public Assembly Rooms. A. H. Vandivert, Bethany.
152 The Opsonic Theory. H. C. Freudenberger, Clarksburg.
153 The Tuberculosis Crusade. J. L. Eaton, Bismarck.

Louisville Monthly Journal of Medicine and Surgery.

August.

154 *Method of Drainage of Ankle Joints. O. H. Reynolds, Frankfort, Ky.
155 Diagnostic Importance of the *Spirochæta pallida* or *Treponema pallidum*. D. S. Wilson, Louisville, Ky.
156 Nasal Surgery. I. A. Lederman, Louisville, Ky.
157 *Legal Relations of the Railroad Surgeon to the Railroad Company, and the Duty of the Injured Person to Make His Loss or Damage on Account of His Injury as Light as Possible. B. D. Warfield, Louisville, Ky.
158 Some Recent Ear Cases. S. G. Dabney, Louisville, Ky.

154 and 157. These articles also appear in the *Kentucky Medical Journal*, August, 1908.

Memphis Medical Monthly.

August.

159 Headaches, Their Relation to the Refractive and Muscular Condition of the Eye. G. H. Savage, Memphis.
160 Empyema of the Gall Bladder with Stone, Following an Attack of Typhoid. J. H. Carter, Memphis.

161 Indications for the Simple Mastoid Operation. R. McKinney, Memphis.
162 Septic Thrombosis of Cavernous Sinus. W. L. Simpson, Memphis.
163 Report of 77 Cases of Labor in Occipito-Posterior Positions H. R. Coston, Birmingham, Ala.
164 How Immunity from Yellow Fever May Possibly Be Acquired. E. H. Randle, Hernando, Miss.

Texas State Journal of Medicine. Fort Worth.

August.

165 Acidosis. K. H. Beall, Fort Worth.
166 Safe and Sane Quarantine Against Yellow Fever. J. H. Florence, Galveston.
167 Intestinal Obstruction. F. Paschall, San Antonio.
168 Closure of Septal Perforations. W. R. Thompson, Fort Worth
169 Case of Splenic Anemia. M. J. Bliem, San Antonio.
170 Chronic Interstitial Nephritis. T. C. Merrill, Colorado, Texas.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

September 5.

1 *Educational number.

1. Educational Number.—This number of the *British Medical Journal* contains no original articles, but is devoted entirely to information concerning medical education and practice in the British Empire. In addition to an address of counsel to students, it contains a statement of the powers and duties of the General Medical Council, the regulations and requirements of all the medical schools and examining bodies throughout the United Kingdom, and the scholarships awarded by the various schools in aid of medical study, the regulations for the government medical services, postgraduate study, the study of tropical medicine, the requirements for the various diplomas in state medicine and public health, and the regulations for diplomas in dentistry. There is also a review of the conditions under which British (and probably other) practitioners are permitted to practice in various foreign countries.

Lancet, London.

September 5.

2 Aneurisms of Cerebral Vessels. J. R. Bradford.
3 Extensive Enterectomy for Gangrene. A. E. J. Barker.
4 Pathology and Treatment of Exophthalmic Goiter. A. G. Gullan.
5 Spinal Analgesia, with a Record of Fifty Consecutive Cases. J. M. Renton.
6 *Application of Opsonic Methods in Comparing Human and Bovine Tuberculosis. F. L. Pochin.
7 *Epidemic Infantile Diarrhea. V. J. Glover.
8 Unusual Case of Chronic Bi-Nitrobenzin Poisoning. E. Walker.
9 Case of Foreign Body in the Left Bronchus. H. A. Moffat.
10 *Outbreak of Cowpox. A. B. Green.
11 Localized Outbreak of Scarlet Fever Presumably Attributable to Infected Milk. C. A. Cameron.
12 Case of Ectopic Gestation on the Goldfields. R. S. Taylor.

6. Opsonic Methods in Comparison of Human and Bovine Tuberculosis.—Pochin refers to Koch's well-known announcement of 1901, in which he stated, among other things, that experiments on the human subject, to determine the effects of the bovine bacillus, were out of the question. This was obviously true when Koch made the statement, but the researches of Wright and Douglas have placed in our hands an exact method, not only of experimenting with, and ascertaining the resistance of human beings to the two strains of bacilli, but of extending the experiments to bovines and measuring their resistance. He describes his experiments with emulsions of human and bovine tubercle bacilli respectively, having in view to ascertain whether the action of opsonins in bovine blood is the same with regard to tubercle bacilli of both human and bovine strains, or whether there is any amount of difference which would indicate a distinction between the bacilli with regard to their susceptibility to the action of opsonins, and, therefore, a difference in the resistance of the animal to infection by bacilli of the different strains. The number of human bacilli ingested by the bovine leucocytes is considerably greater than the number of bovine bacilli so absorbed, which explains the comparative immunity of cows to infection of human origin. A series of counts made on children to ascertain their resistance to the bacilli of the two different strains, gave a converse result. He concludes that his observations confirm the conclusion of the royal commission and holds that this application of the discoveries and methods of Wright and Douglas affords a certain, expeditious and inexpensive (though tedious) mode of carrying on observations on the resistance of animals to diseases of human origin; and, further, that it also affords a method of gauging the resistance of human beings to virulent diseases from which man and animals suffer in common.

7. Epidemic Infantile Diarrhea.—Glover describes his investigations into the relations of the house fly with epidemic diarrhea. He believes that epidemic infantile diarrhea can be prevented by the following precautions: A fine-meshed muslin cover should be kept over the infant's face when sleeping. The milk should be prepared, diluted with water, barley water or lime water, and the requisite cream and sugar added; it should then be boiled and placed in a vessel covered with a muslin cover and kept in a cool, well-ventilated place. A suitable covering is easily manufactured by twisting a piece of wire into a ring-shape and sewing a muslin cover to it. The muslin should be renewed frequently. The milk should be prepared thus twice daily and a fresh supply used each time. All vessels used in preparing the milk should be scrupulously clean and be scalded before use. The bottle should be cleaned after use, and then half a teaspoonful of boric acid should be placed in it, and the bottle filled up with hot water. The nipple should be scrubbed and kept in a weak boric acid solution. Before using, both bottle and nipple should be washed in warm water. In cases in which this procedure has been adopted he has not known epidemic infantile diarrhea to occur. All vegetable and animal refuse from the house should be burned. No open ashpits should be allowed, but galvanized iron dust bins with well-fitting lids should be insisted on, and vegetable and animal refuse should be rigidly excluded from these. The bins should be emptied twice weekly. The dung from stables and sheep pens which are near dwelling-houses ought to be frequently removed, and not allowed to accumulate, as is usually the case. Fly papers, of the sticky variety, should be used when flies appear, and if the flies become numerous a little turpentine should be poured over some dying cinders on a shovel occasionally.

10. Cowpox.—Green gives details concerning an outbreak of cowpox beginning in the middle of March of the present year in a herd of milch cows. The most careful investigation failed to discover the origin. On April 16 the farmer's son contracted a marked vaccinia, and in May two farm laborers followed suit. Bacteriologic examination of the serum showed only *Staphylococcus aureus* and *S. albus*.

Medical Press and Circular, London.

September 2.

13 *Backward Displacement of the Gravid Uterus; Its Diagnosis and Treatment. J. M. M. Kerr.
14 Treatment by Hyperemia of Bier. Prof. Gebele.
15 Infant Mortality and Parliamentary Legislation. R. Caldwell.
16 Tuberculosis in Ireland. T. J. O'Meara.

13. Retrodisplacements of Gravid Uterus.—Kerr discusses the variety of backward displacements of the gravid uterus, and describes the features and progress of the condition. He says that a feature invariably present, and one which seldom exists to any extent in other conditions simulating incarceration of the retrodisplaced gravid uterus, is the great difficulty, often the inability to pass urine. Extrauterine pregnancy, especially if the sac has ruptured and there is a pelvic hematocele, also occasionally resembles retroversion of the gravid uterus. It is often accompanied with difficulty of micturition. He describes the devices to be tried for correction, and states that if in spite of such devices he found it impossible to raise the uterus, he would seize that organ with a volsellum and try to get his fingers down behind the fundus, not only for the purpose of breaking down adhesions, but also to allow air to get into the pouch of Douglas. Should it still be impossible, he would perform Cesarean section, enter the uterus, stitch it up and perform ventrofixation. In regard to those rare cases of sacculation of the gravid uterus in which the pregnancy continues to term, it appears desirable, if the sacculation can be relieved, to deliver the child if possible, *per vias naturales*. If that fails, a laparotomy will be necessary.

Clinical Journal, London.

August 26.

17 Mental Disturbances in Women. N. Moore.

September 2.

18 *Use of Vaccines. W. B. Clarke.
19 Symptomatology, Diagnosis and Treatment of Simple Chronic and Tuberculous Prostatitis. C. G. Cumston.

18. **Vaccines.**—Clarke describes cases of *Bacillus coli* cystitis successfully treated with a vaccine from the patient's urine, and insists that the services of a trained pathologist are not a *sine qua non* for obtaining a satisfactory vaccine. He describes the method which was carried out in his own cases by the pathologic dresser to the hospital. He also insists on the fact that vaccines have not superseded all other means of treatment, and that there is more need of accurate diagnosis than ever. He continues: "If you have ever seen a case of cystitis treated by vaccines alone, and then had the advantage of seeing the same patient subjected to the influences of bed, diet, diluents and urinary antiseptics as well, any doubt which you may have of the value of these latter, will soon vanish. Don't ignore them; they may effect a cure while you are waiting for your vaccines."

Practitioner, London.

September.

20 Malignant Obstruction of the Esophagus. L. McGavin.
21 *Difficulties of Diagnosis. A. J. Hall.
22 *Cancer of the Breast; Indications for Operation. T. C. English.
23 *Striæ Atrophicæ as a Sequel of Acute Pneumonia. F. C Moore.
24 *Treatment of Wry-Neck by Lengthening the Sterno-Mastoid. R. P. Rowlands.
25 *Some Recent Advances Against the Tubercle Bacillus* F. C. Eve.
26 Pyelitis During Pregnancy. H. T. Hicks.
27 Review of Recent Advances in Surgery. J. Cunning.
28 Review of Recent Work in Abdominal Surgery. H. Upcott.
29 Pneumococcal Peritonitis. R. F. Jowers.

21. **Difficulties of Diagnosis.**—Hall says that the difficulties of arriving at a satisfactory diagnosis may arise from: 1, insufficient knowledge; 2, insufficient experience; or 3, insufficient data. He discusses the diagnosis in doubtful cases of intracranial tumor, in hysteria, following local injury or disease, hysteria under unusual circumstances, phantom tumors, hysterical paralysis, plumbism, abdominal disorders and functional or organic disease of the stomach. Difficulties of diagnosis arise, he concludes, most often from lack of data. In a certain percentage of cases the data do not exist, but in most cases they do exist, but have not been obtained.

22. **Cancer of the Breast.**—English insists that in all palliative operations the skin flaps should be so cut that they can be united without difficulty, the wound healing by first intention. Unless this can be done, he would advise against operation, for he believes that more harm than good is done by leaving a large raw surface; the very object of the operation is defeated by inability completely to close the wound; the long convalescence means much distress and disappointment to the patient, and a recurrent growth often shows itself in the granulating wound, which then, of course, never closes. He urges that in all cases of doubt the patient should be given the chance afforded by the operation, for mammary cancer is a disease which follows no definite rules, and it often happens that when we think there may be extensive disease in the mediastinum or in other parts out of sight, there is none just as it sometimes happens that when we believe the disease to be well localized, it may prove widespread.

23. **Striæ Atrophicæ After Pneumonia.**—Moore discusses the occurrence of atrophic striæ as an occasional sequel of various acute infective diseases in the absence of any obvious mechanical cause. The most frequent type of atrophic striæ, the lineæ gravidarum, is usually regarded as the result of purely mechanical influences, but there are other conditions in which the pathogenesis is less obvious. Atrophic striæ over the patellæ, above the knees, on the outer side of the thighs, above the legs, and above the malleoli, occasionally follow typhoid. Appendicitis, scarlet fever and peritoneal disease are also occasionally accompanied thereby, and Moore reports a case in which they appeared on both sides of the spine in the dorsolumbar region after pneumonia. He considers that the recorded cases do not support a purely mechanical pathogenesis and postulates some other factor rendering the cutaneous structures peculiarly vulnerable, such as malnutrition of a neurotrophic cause.

24. **Lengthening the Sternomastoid.**—Rowlands wonders that, considering the success of tendon lengthening in talipes, there does not seem to be any reference to its use in wryneck. He describes as follows a particular method used by him of lengthening the mastoid, which he has found more satisfactory than mere division of the muscle. A curved incision was made across the lower end of the left sternomastoid, which was carefully separated from the vessels beneath it. The sternal tendon was detached from the bone, and separated from the clavicular fibers, which were then divided obliquely upward and backward. The dense and shortened deep layer of the sheath of the sternomastoid was dissected away from the carotid sheath, and all that could be exposed was excised to prevent reunion and recontraction. Attempts were then made to correct the deformity, but the fascia covering the scalenes, and the levator anguli scapulæ resisted, and required careful division. The muscles were stretched until some of the fibers were seen to tear. The anterior fibers of the trapezius were also stretched and kneaded until they gave way, and it became possible to over-correct the deformity. While this position was maintained the two heads of the sternomastoid were sewn together with catgut sutures without any tension. All bleeding was arrested, and the wound carefully dried and closed. The head was bandaged in the over-corrected position. A few days later, a simple apparatus was applied with the same object, and this was worn day and night for six months after the operation.

Dublin Journal of Medical Science.

September.

30 *Recent Mania: Its Cause and Treatment. R. Kelly.
31 Typhoid Carriers. J. A. Pringle.
32 Clinical Reports of the Rotunda Hospital E. H. Tweedy, J. W *Bell, and A. Holmes.*

30. **Recent Mania.**—This is the new name applied to acute mania by the lunacy commissioners in England, who classify mania into recent, recurrent and chronic. Kelly points out that Krapelin does not describe an acute mania, but describes much the same condition under the title maniac depressive insanity, taking melancholia and mania as gradations of one disease. In this Kelly does not agree with him, but holds that the true acute mania does not ever show any signs of melancholia. He holds the cause to be physical, and that such things as love affairs or religious excitement, which are held by the popular mind to be causes, have nothing to do with it. Emotionalism is a sign of an unstable brain and becomes a symptom of mania after it shows itself. Alcoholism he considers also more often a symptom of a weak mind than a cause of insanity. He reports cases and considers (1) that the primary cause of recent mania is hereditary predisposition, and (2) that it is set up by an autointoxication from the intestinal tract. He sums up treatment in regular action of bowels, good wholesome stimulating food, and the treatment of symptoms as they arise.

Journal of Tropical Medicine and Hygiene, London.

August 15

33 *Avian Hæmoprotozoa* of the Genus *Leucocytozoon.* L. W. Sambon
34 Types of Tropical Ulcer as Seen in Nyasaland. R. Howard.

September 1.

35 Tropical Dermatomycoses A. Castellani.

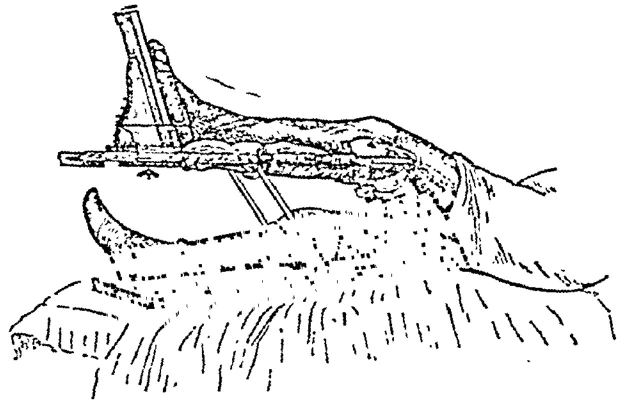
Archives Générales de Chirurgie, Paris.

August 25, II, No 8, pp. 115-224.

36 *Deaths After Spinal Stovain Anesthesia. (Les cas de mort après la rachistovainisation.) P. Hardouin.
37 *Extension Treatment of *Fractures of the Shaft of Long Bones.* (Traitement des fractures diaphysaires de la cuisse et de la jambe.) G. Montandon.
38 *Rupture of Uterus at Site of Old Cicatrix. (*Les cicatrices* utérines et leurs ruptures.) P. Mauclaire and Burnier.

36. **Fatalities from Stovain Spinal Anesthesia.**—Hardouin never attempted cocain spinal anesthesia, but the success of others with stovain encouraged him to try it. He found it satisfactory in nine cases, but the tenth patient died under his hands from bulbar intoxication. He has found in the literature fifteen other cases of fatalities attributed by the surgeons to the action of the stovain. In none of the cases was the dose of stovain over 0.07 gm. (108 grains). He calls attention to the fact that in six of the fifteen cases the operation was done for intestinal occlusion, from volvulus or strangulated hernia. The method is contraindicated in the aged, the debilitated and children, and it should never be attempted without a supply of caffein, ether and salt solution for intravenous injection. His patient was a man of 59 with right strangulated inguinal hernia, the first symptoms observed twenty hours before. Hardouin reviews also a number of other cases in which threatening collapse and arrest of the heart or respiration yielded to energetic measures. If these patients had happened to be a little more debilitated than they were they probably would have swelled the list of fatalities.

37. **Extension in Treatment of Fracture of the Long Bones.**—Montandon gives an illustrated description of the Zuppinger apparatus for extension of the leg and thigh. It is made on mathematical principles combined with the knowledge that the coaptation of the stumps depends principally on the passive elasticity of the muscular elements. As this passive elasticity can not be utilized beyond a certain limit of tension of the muscles, it is important to apply permanent extension in the position of the utmost possible relaxation of these muscles. For the leg the greatest relaxation is realized when the hip, the knee and the ankle are in semiflexion. This position is obtained with an apparatus forming a triangle, one of whose sides is of variable length.



The extension is automatic, as the leg fastened to the frame lengthens the variable side of the triangle by the mere action of its weight. The extension is also progressive, as, when the variable side lengthens, the center of gravity of the leg is displaced forward, which increases the traction. Far better results have been obtained at Kroenlein's clinic at Zurich since this apparatus has been systematically used during the last two years. In 35 cases the 33 adults were able to resume work in eleven weeks after fractures of the leg from torsion, and in ten weeks after other fractures. In case of fracture of the thigh, the patients resumed work after seventeen weeks. In respect to primary shortening of the limb it is stated that the results averaged better than with other technics.

38. **Rupture of Cicatrix in the Uterus.**—Mauclaire and Burnier summarize twenty-two cases from the literature. The rupture occurred in the cicatrix from various gynecologic affections or operations, but the majority followed Cesarean section. They conclude from these experiences that special care must be exercised in suturing in every operation on the uterus. It is wiser, they think, to suture in four tiers. They prefer to use both catgut and silk, with special care to sponge away the blood to avoid formation of adhesions.

Presse Médicale, Paris.

August 26, XVI, No. 69, pp. 545-552.

39 Urobilin in the Stools in Health and Disease. (Stercobiline.) A. Gilbert and M. Herscher.
40 *Do the Tuberculous Sleep on the Side of Their Lesion or Not? (De quel coté dorment les tuberculeux pulmonaires relativement au siège de leurs lésions?) Molle.

August 29, No. 70, pp. 553-560.

41 Importance of Lipoids from Medical Point of View. (Les lipoïdes.) H. Iscovesco.
42 *Food Value of Fruits. H. Labbé.
43 Acute Proliferation of Connective Tissue of Glisson's Capsule, Experimentally Induced. E. Gérandel.

40. **Diagnostic Significance of Side on which Consumptives Sleep.**—Molle has been studying this question for years and thinks that it has a bearing on the diagnosis of incipient pulmonary tuberculosis. Several writers have called attention to the unilateral neuromuscular hyperesthesia which accompanies pulmonary tuberculosis, sometimes called Weill's syndrome. In examining hundreds of patients, Molle has found that this neuromuscular hemihyperesthesia, when it was noticed on the left side, always accompanied a lesion in the front left supraclavicular fossa or in the back right infraspinous or supraspinous fossa. When the hyperesthesia was on the right side, the lesions were reversed. Consumptives naturally lie on the side free from hyperesthesia; consequently, when a patient states that he habitually lies on the right side, Molle looks for the lesion in the front left subclavicular fossa or in the right infraspinous or supraspinous fossa and *vice versa*. He remarks in conclusion that this rule has proved reliable in ten years of experience. The only trouble is that when the course of the syndrome has been modified by revulsive medication, these neuromuscular disturbances are liable to prove unstable. They can be depended on, however, in the early, untreated stages.

42. **Food Value of Fruit.**—Labbé, in this article, discusses mainly the banana. Analysis has shown that the nutritive value of the banana is equal to 100 calories for 100 grams of fresh banana, that is, approximately to an equal weight of meat. The large proportion of cellulose renders it hard to digest, however, and he advises cooking the banana with sirup and straining it. This gives a velvety cream which can be unreservedly recommended, he says, as an agreeable, harmless and nourishing addition to the diet. He adds three-quarters of their weight in sugar to two chopped bananas. The sugar is boiled with a glass of water for three minutes, the chopped bananas are then cooked in this syrup for fifteen minutes and then strained through muslin. He adds that banana flour is made from the green fruit, and its composition is thus different from that of the ripe fruit; the starch has not been converted into sugar, and there is an excess of acid and an astringent taste. He does not advise its use.

Semaine Médicale, Paris.

September 2, XXVIII, No. 36, pp. 421-432.

44 *Pseudoparalytic Myasthenia Gravis. G. Marinesco.
45 Simplification of Technic for Serum Diagnosis of Syphilis. (Sérodiagnostic de la syphilis.) J. Bauer.

44. **Pseudoparalytic Myasthenia.**—Marinesco has observed the course of pseudoparalytic myasthenia gravis in two sisters, 21 and 31 years old, previously healthy except for measles at 5 in the younger and typhoid at 7 in the other. The first symptom in each case was ptosis of the eyelids, the eyes alternating, with normal intervals. After a few months the ptosis became permanent, the voice nasal, and there was difficulty in swallowing, fluids running out through the nose. The affection began in 1903 in the younger patient and soon she had continuous headache. In the other, the first symptoms were noted in 1906, and the condition proved fatal in less than two years. He reviews the history and literature on the subject, comparing the cases on record with the findings in his cases, and concluding that the primal cause of the affection is some disturbance in the formation of the fatigue antibodies or oxidases. The clinical aspect is that of fatigue and exhaustion in volitional movements, especially in the muscles of continuous action. From the chemical point of view there is lack of normal oxygenation, particularly in the volitional movements; the result is an accumulation of intermediary products, destruction of the chemical composition of the muscle, and increase in the total nitrogen in the

urine. From the anatomic point of view, the disease is distinguished by the changes in the striated muscles and in several glands with an internal secretion, such as the parathyroids, the suprarenal capsules, the hypophysis and the liver. The parathyroids and the hypophysis present the microscopic features of excessive functioning.

Beiträge zur Klinik der Tuberkulose, Würzburg.

X, No. 2, pp. 129-224. Last Indexed September 5, p. 874.

46 *Roentgen-Ray Diagnosis in Tuberculosis of the Bronchial Glands and Apices. (Lungenspitzen- und Bronchialdrüsentuberkulose im Röntgenbilde.) A. Kyritz.
47 *Results of Cutaneous and Ocular Tuberculin Reactions. (Kutan- und Conjunctivalreaktion.) A. Wolff-Eisner.
48 "Granula" and "Motes." (Die Muchschen "Granula" und die Carl Spenglerschen "Splitter.") S. F. Wolfring.
49 *Case of Syphilis of the Lungs. W. Brandenburg.

46. **Roentgen-Ray Diagnosis of Apical and Glandular Tuberculosis.**—Kyritz asserts that internal medicine is just beginning to appreciate the importance of and to utilize Roentgen research, especially in the diagnosis of incipient tuberculous processes in the bronchial glands and apices. He has been thus examining all the dubious cases at the Oberkaufungen sanatorium, particularly in connection with Neisser's test with the sound in the esophagus. In this communication he gives the illustrated findings in six typical cases which show that Roentgen examination immeasurably enlarges the field for diagnosis in the earliest stages of tuberculosis in the chest. The first skiagram shows the abnormal conditions in the bronchial glands, the intraclavicular not being evident in any other way. Spinalgia was the only clinical symptom, and the Neisser test was positive. In the second case the absence of subjective symptoms prevented suspicion of a tuberculous process in the bronchial glands, but the positive Roentgen findings were followed by a positive response to the Neisser test. In both these cases the Roentgen and Neisser findings harmonized on account of the involvement of the mediastinal glands. In the third case the skiagram of the center of the chest gave negative findings, as also the Neisser test, but the bronchial glands showed marked changes in the skiagram. In the fourth case, the Neisser test was negative likewise, but the skiagram showed suspicious changes in the bronchial glands, confirming the superiority of the Roentgen technic for diagnosis of incipient tuberculosis. In the fifth case, the Roentgen examination showed adhesions and restriction of the movements of the right diaphragm, suggesting pleuritic adhesions or relics of inflammation around the bronchi, an assumption rendered more probable by the shadow of some enlarged glands. In the sixth case a woman of 22 showed in the skiagram a shadow in the left lung area, clearing up in the first and second interspaces and above the left hilus (cavity?). On the right side a number of roundish oval shadows were seen, and the excursions of the diaphragm on the left were restricted. Nearly eight pages of bibliography on the subject of Roentgen diagnosis in internal medicine are appended, including a number of references to THE JOURNAL.

47. **Cutaneous and Ocular Tuberculin Reactions.**—Wolff-Eisner has applied the ocular tuberculin test in more than 2,500 cases and states that with ordinary care it is possible to avoid the mishaps observed by certain others. He has not had an instance of furunculosis such as Röpke has observed twice in his experience with a few hundred cases; he warns that the solution should be made fresh each time. He has found the ocular reaction in some cases the first sign of tuberculous infection. Positive findings were observed in 15 per cent. of the clinical non-suspects. Others report about the same proportion, while the subcutaneous and cutaneous methods give positive findings in about 70 per cent. of all tested.

49. **Syphilis of the Lungs.**—Brandenburg reports in detail a case of certain syphilis of the lungs with postmortem findings. The patient was a domestic of 49, supposed to be healthy with a history of measles in childhood. She bore a healthy child at 34, and knew nothing of syphilitic infection, had never been treated for syphilis, and had never passed through an abortion. At 48 pains developed in the back and shoulder, and ulcers at various points which showed no tendency to heal. By the end of a year edema of the legs compelled her to stay in bed. She had long had a cough, but no expectoration and no spitting of blood, although there were signs of gummatous processes in the lungs and amyloid changes in the kidneys. Autopsy revealed syphilitic scars in the vulva, skull, liver and throat, a gumma in a muscle of the right forearm, fibrous pleurisy with adhesions, and multiple gummatous nodules and scars in both lungs, with a gangrenous focus in the right upper lobe and amyloid changes in the spleen, suprarenals and kidneys. No tubercle bacilli nor spirochetes could be cultivated from the lungs, but all the findings spoke for syphilis and none for tuberculosis. The differential features were especially the location of the foci below the pleura and at the bifurcation of the bronchi, the centrifugal course of the adhesions in connection with the gummatous nodules and the aspect of the nodules themselves, their size, color, consistency, sharp limitation and their prominence. The microscope showed the scantiness of giant cells in the granular tissue of the nodules, the characteristic arrangement of the granular tissue and its structure, the tendency to formation of adhesions, the simultaneous occurrence of organized exudates and necrosis, and the regular capillarization of the granular tissue.

Berliner klinische Wochenschrift.

August 31, XLV, No. 35, pp. 1593-1628.

50 *Acute Dilatation of Stomach. (Acute Magenektasie.) M. Borchardt.
51 *Spinal Serous Meningitis. K. Mendel and S. Adler.
52 Torsion of Pedicle of Gall Bladder. (Stieltorsion der Gallenblase.) W. Mayer.
53 *Gland-like Openings in Cortex of Suprarenal. (Kommen in den Zellkomplexen der Nebennierenrinde drüsenartige Lumina vor?) M. Askanazy.
54 Adrenalin Glycosuria and Its Influencing by Pancreatic Juice and Extract. C. Frugoni.
55 *Affections of Conus Medullaris. (Erkrankungen des Conus medullaris.) S. S. Rabinowitsch.
56 Resection of Elbow with Retention of Function. (Ellenbogenresektion mit Erhaltung der Beweglichkeit.) W. Lossen.

50. **Acute Dilatation of the Stomach.**—Borchardt gives an illustration of a memorable case of acute dilatation of the stomach. The patient was a girl of 17, convalescing from a right nephropexy, when suddenly fulminating peritonitis developed. He opened the abdomen and, discovering arteriomesenteric occlusion of the duodenum, he applied the stomach pump, turned the patient on her stomach and applied stimulants, but it was too late; the patient died in the twenty-third hour. The stomach measured 65 cm. around the greater curvature. He is convinced that the acute atony with dilatation of the stomach is the primary trouble. The possibility of this should always be borne in mind when severe abdominal symptoms are observed during convalescence from an operation of any kind, especially after laparotomies and those on the biliary passages. This gastro-duodenal ileus is most common in thin, weakly individuals, especially those with general enteroptosis, the stomach being vertical, and in patients with gallstones or much lordosis, or in those convalescing from a protracted debilitating disease. In such patients some trifling trauma, general anesthesia, retching, error in diet or tight abdominal bandage may suffice to induce the occlusion of the duodenum. At the slightest suspicion of a predisposition of the kind he warns the attendants to supervise the patient with the stomach tube in their hand. If vomiting occurs frequently he has the stomach systematically evacuated. If the tendency to dilatation is recognized in time it can be nipped in the bud. Such patients should not be weakened by excessive purging before the operation nor left too long without eating afterward. The results of the lavage of the stomach must be controlled by percussion, for the dilatation may be so excessive that the stomach tube does not reach to the fluid content. If the dilatation has become extreme, turning the patient on the abdomen does more harm than good at this late stage. As the very last resort a fistula into the stomach might give relief. There are several reasons why gastroenterostomy would be impracticable at this late stage.

51. **Spinal Serous Meningitis.**—Mendel and Adler report a case in a woman of 36 with symptoms indicating an affection

of the spinal cord, assumed to be a tumor between the second and the third thoracic vertebræ. A history of an old tuberculous apical process suggested the possibility of caries, and there was also a possibility of serous meningitis. The operation allowed the escape of considerable fluid under some pressure, but no tumor was found. The drains were removed in 24 hours after the laminectomy, and the wound had healed by the tenth day. The main symptoms gradually subsided. This and other similar cases analyzed seem to show that the trouble is the result of an inflammatory process, followed by exudation and encapsulation, inside the arachnoid membrane and pia. In the majority of the cases hitherto observed the presence of adhesions, etc., indicated some primary inflammatory focus. It is possible that an exploratory puncture alone in such cases might prove all the intervention necessary. The experience to date speaks against the probability of reaccumulation of the effusion. It is in such cases as these, Adler remarks, that the findings during the operation give the neurologists the clue to the explanation of the clinical picture.

55. **Affections of the Conus Medullaris.**—This communication from Russia reports the case of a man of 43, previously healthy, who had lost volitional control of bladder and rectum; there was anesthesia of the urethra and rectum, sexual organs, perineum, region of the anus and coccyx and adjoining buttocks, with impotence and loss of the right Achilles tendon reflex. The symptoms differentiated a subacute myelitis of the conus medullaris and adjoining epiconus, assuming a chronic course. Rapid recovery followed administration of strychnin internally and local faradic treatment with one electrode in the urethra, the other in the rectum. This treatment has often proved effectual in the author's experience with neuropathic impotence. In the present case, recovery was practically complete in six weeks.

Deutsche medizinische Wochenschrift, Berlin.

August 27, XXXIV, No. 35, pp. 1498-1536.

57 Treatment of Scrofula. (Skrofulose.) O. Soltmann.
58 Antibodies in Tuberculous Serum That in Connection with Tuberculin Bind the Complement. (Mit Tuberkulin kom-[illegible] stoffe im Serum Tuberkulöser.) M. [illegible]
59 Al[illegible] in Jaundice. (Alimentäre Galaktosurie bei Ikterus.) R. Bauer.
60 *Intermittent or Prolonged Fever with Tertiary Visceral Syphilis. (Fieber bei Leber-Syphilis.) F. Dammert.
61 *Facilitation of Detection of Eggs of Parasites in the Stools. (Methode zur Erleichterung der Auffindung von Parasiteneiern in den Faeces.) W. Telemann.
62 *Differences in Temperature in the Axillæ in Acute Appendicitis. (Unterschiede in der Temperatur beider Achselhöhlen bei akuter Epityphlitis.) E. Hönck.
63 Syringe for Removal of Foreign Bodies and Plugs from Ears. (Gehörgangsspülröhrchen.) F. Müller.
64 Arsenic in Treatment of [illegible] tins (Ehrlich) bei der [illegible]
65 Simplified Office Roentge[illegible] besonders gee[illegible] zimmer.) C. Beez.
66 *Protracted Fever in Syphilitic Liver Affection. (Zwei Fälle von Leberlues mit langdauerndem Fieber.) C. Pariser.

60. **Intermittent Fever in Tertiary Visceral Syphilis.**—Dammert's patient presented a number of tertiary manifestations of his syphilitic infection. In the course of twelve years it induced a febrile affection of the pleura simulating tuberculous pleurisy, possibly connected with a syphilitic affection of the liver noted about the same time, with much enlargement of the organ. Six years later, neurasthenia developed which probably was due, he thinks, to the syphilitic dyscrasia of the blood, as it resisted all treatment until a vigorous course of mercurial inunctions was given. Two years later, during a prevailing influenza epidemic, an apical process developed in the lungs, with fever, which was also a specific syphilitic affection, and there were also symptoms on the part of the heart indicating involvement of the myocardium. Three years later, a severe febrile condition developed, simulating chronic malaria in every respect except that the blood contained no parasites. In all these phases, mercury and iodids restored the patient to health for the time being. The case emphasizes the importance of bearing syphilis in mind in all febrile conditions of obscure origin. Pariser adds two more cases of syphilis of the liver with long-continued fever. Malaria or tuberculosis was considered almost certain until the prompt recovery under specific treatment. He is convinced that many cases of syphilitic processes, not only in the liver, but also in the lungs or other organs, have been erroneously differentiated, with disastrous results from the lack of the specific curative treatment.

61. **Facilitation of Detection of Eggs of Parasites in the Stools.**—Telemann takes pieces about the size of a pea from five different parts of the stool to be examined, and mixes them in a reagent glass filled with equal parts of ether and pure hydrochloric acid. In this mixture the stool rapidly dissolves when shaken. It is then passed through a fine hair sieve, and the filtrate is centrifugated for about a minute. The insoluble relics of the food and the eggs of parasites will be found in the tip of the centrifugal tubes. By this means it is easy to discover the eggs even when they are very scanty.

62. **Differences in the Temperature in the Axillæ in Acute Appendicitis.**—Hönck believes that the right sympathetic is irritated in the beginning of acute appendicitis, and that the irritation may involve the left sympathetic. He has noticed marked differences in the temperature in the axillæ and asymmetrical temperature in various regions elsewhere.

66. See Abstract 60 above.

Fortschritte der Medizin, Berlin.

August 10, XXVI, No. 22, pp. 673-704.

67 *Pathology of Atoxyl Poisoning. (Anatomie der Atoxylvergiftung.) A. Birch-Hirschfeld and G. Köster.

67. **Pathology of Atoxyl Poisoning.**—This communication reports the findings in dogs and rabbits given small doses of atoxyl daily. The optic nerve and retina showed destructive processes, as also the spinal cord, etc. The findings confirmed the clinical picture observed in two cases of atoxyl poisoning. The patients presented atrophy of the optic nerve with complete blindness, but no impairment of the pupil reaction. There were also disturbances in bladder and rectum functioning.

Medizinische Klinik, Berlin.

August 30, IV, No. 35, pp. 1329-1366.

68 Delusions and Paranoia. (Wahnbildung und Paranoia.) R. Thomsen.
69 *Presen[illegible] tment of Kidney Disease. [illegible] der Nierendiagnostik und [illegible]
70 *Complications and Serum Treatment of Epidemic Cerebrospinal Meningitis. S. Weiss-Eder.
71 *Radiotherapy of Disfiguring Affections. (Aktinotherapie und Kosmetik.) G. J. Müller.
72 Perforation of Meckel's Diverticulum. L. Simon.
73 Apparatus for Graphic Registration of Blood Pressure. (Tonograph.) Silbermann.
74 Hygiene of the Nipples. (Zur Hygiene der Brustwarzen.) G. Lennhoff.
75 Serum Diagnosis of Syphilis. (Serologischer Luesnachweis mit der Bauerschen Modifikation der Wassermannschen Reaktion.) W. Hinrichs.
76 Intravenous Strophanthin Treatment. G. Liebermeister.

69. **Diagnosis and Treatment of Tuberculous Kidney Disease.**—Berg relates the details of a typical case of incipient renal tuberculosis in a woman of 33 which he was able to diagnose and cure by removal of the affected kidney. Besides the Voelker test with chromocystoscopy and the phloridzin test, the ocular tuberculin test proved instructive. He comments on the frequency of unilateral renal tuberculosis, stating that autopsies of 191 cases of renal tuberculosis at the Vienna public hospital showed that 67 had been unilateral processes and that the patients might possibly have been saved by nephrectomy in time; in 185 cases the renal tuberculosis had not been diagnosed. Krönlein found one kidney alone affected at first in 92 per cent., Weil in 88 per cent., and Hallé and Motz in 89 out of 132 cases of renal tuberculosis that came to autopsy. Berg thinks that nephrectomy is indicated even if the other kidney is functioning defectively; it will regain its functional integrity after removal of its tuberculous mate. If the supposedly sound kidney is functioning badly or not at all, or its condition can not be accurately determined, nephrectomy is contraindicated. The diagnosis of tuberculosis of the kidney is difficult, as there may be no subjective symptom, especially none pointing to the kidney. Occasionally there may be a dull pain in the lumbar region, generally in-

dependent of movements, and in rare cases there may be paroxysmal pains. In the early stage the urine is still clear. Enlargement and tenderness may be observed only in the sound mate as the result of compensating hypertrophy. The most significant sign is frequent micturition, up to incontinence, probably a reflex phenomenon. Nocturnal frequency of micturition is especially instructive.

70. **Serum Treatment of Epidemic Meningitis.**—Eder states that the mortality and number of complications were materially reduced in the group of 23 cases of epidemic cerebrospinal meningitis in which serum treatment was systematically applied.

71. **Phototherapy and Disfiguring Affections.**—Müller emphasizes the great improvement in treating disfiguring cutaneous affections that has been realized with the solar, Roentgen and radium treatments. He reviews the list of affections liable to be benefited by this actinotherapy, as he calls it. He has obtained particularly good results in oily seborrhea, folliculitis, juvenile acne, eczema, soft warts after curetting, nevi, affections of the nails, chilblains and alopecia. For nevus he prefers the Finsen treatment, with the quartz lamp for the more extensive cases.

Münchener medizinische Wochenschrift.

August 25, LV, No. 34, pp. 1769-1816.

77 *Distribution, Origin and Prevention of Contracted Pelvis. (Zur Verbreitung, Entstehung und Verhütung des engen Beckens.) A. Hegar.
78 Orthodiagraphic Study of Heart in Pathologic Conditions. (Orthodiagraphische Untersuchung über pathologische Herzformen und das Verhalten des Herzens bei Emphysem und Asthma.) H. Dietlen.
79 Condurango Bark and Kawa Root. (Kondurangorinde und Kawarwurzel.) R. Boehm.
80 Improved Technic for Tuberculin Treatment. (Zur Verbesserung der Tuberkulinbehandlung.) F. Jessen.
81 Research on Phagocytosis. (Phagozytosestudien.) H. Bechhold.
82 Relations of Sugars of Aromatic Group to Animal Organism. (Beziehungen der Zyklosen zum tierischen Organismus.) F. Rosenberger.
83 Asymmetry of Face and Skull in Relation to Torticollis. (Gesichts- und Schädelasymmetrien.) A. Peters.
84 Typhoid and Paratyphoid in the Palatinate During 1903-1906. O. Mayer.
85 Elastic Bowel Clamp. (Elastischer Darmschliesser.) G. Solaro.

77. **Distribution and Prevention of Contracted Pelvis.**—Hegar has been conducting an inquiry in various countries in regard to the frequency of contracted pelvis and its association with other manifestations of infantilism, such as stenosis of the upper aperture of the thorax. He finds that contracted pelvis is more frequent in industrial communities, while it is rare in the Scandinavian countries where breast feeding and outdoor life are the rule. He remarks that sixty years ago, while he was a student, the treatment of typhoid was exhaustively studied, while means of prevention were scarcely mentioned. It is the same now with contracted pelvis; we hear only of pubiotomy, Cesarean section, etc., and yet the prospects for prevention of deformity of the pelvis are more favorable now than for prevention of typhoid in the old days. Again and again, he affirms, must the principles of hygiene be instilled, the injury from lack of breast feeding, from too long sitting in school and lack of physical exercise in the open air, and the injurious manner of life of young girls allowed to attend concerts, theaters and balls before they have attained maturity. Rachitis will then become less frequent, he says, just as cretinism and goiter have been reduced in Baden by better hygienic conditions and improved water supply. He lays great stress on the exceptional benefits of mountain climbing, even for little children, as exercising the respiratory apparatus and muscles. The advantage will be evident even when the anomaly is not pure infantilism but the result of some injurious influence acting on the fetus or embryo.

Wiener klinische Wochenschrift.

August 27, XXI, No. 35, pp. 1231-1258.

86 *Tuberculosis of the Kidneys. (Nierentuberkulose.) F. Kornfeld.
87 Hydatid Disease of the Muscles. (Echinokokkus der Muskeln.) G. I. Baradulin.
88 Relations of Parathyroid Bodies to the Lime Content of the Body. (Beziehungen der Epithelkörperchen zum Kalkbestand des Organismus.) J. S. Leopold and A. v. Reuss.

86. **Non-operative Treatment of Tuberculosis of the Kidneys.**—Kornfeld has been studying the outcome of cases of tuberculosis of the kidneys in which no operation was attempted, and the ultimate fate of the patients operated on. He does not regard the discovery of tubercle bacilli in the urine from one kidney as necessarily indicating its removal. Besides the unsatisfactory results which nephrectomy has given to date in the experience of not a few surgeons, he says, there are several other important points to be borne in mind. The elimination of a few groups of tubercle bacilli in the urine by no means always indicates that the kidney is tuberculous. Weigert, Weichselbaum, Biedl, Kraus and others have shown that the intact kidney may allow tubercle bacilli to filter through it. The conclusion in regard to a tuberculous kidney affection is the more dubious, the scantier and the more transient the bacilli findings. The functional tests are not implicitly reliable. All our diagnostic methods fail to reveal an isolated cavity, not larger than a bean, in the pole of the kidney if the bacilli are not eliminated toward the kidney calices. He thinks that too little stress is laid on the possible involvement of other important organs besides the kidney, before deciding on its removal. Oppel has recently declared that the focus in the kidney is never primary and seldom unilateral. The autopsies at the Vienna public hospital have disclosed that tuberculous affections of the kidneys are associated almost invariably with tuberculous processes elsewhere, especially in the epididymis, prostate and seminal vesicles. The involvement of the other kidney is favored by the anastomotic tracts through the kidney capsule and the lower serosa of the diaphragm (Albarran's venous reno-capsulo-diaphragmatic canal). Lichtenstern has recently published findings which show that after nephrectomy for tuberculosis, notwithstanding the normal conditions in the bladder and ureter stump, good general health, increasing weight and absence of all urinary disturbances, yet tubercle bacilli can be detected in the urine for years. It seems evident that the bacilli must come from a focus which had existed before the nephrectomy, and which persists uninfluenced by the operation. On the other hand, Kornfeld has collected 104 cases of renal tuberculosis during the last twenty years in which the process proved remarkably benign. He cites a few examples, among them the case of a girl of 15 with an apical affection, spondylitis and chronic cystitis with tubercle bacilli. The prognosis was considered so bad that no operation was attempted, but she is now a iii-para, apparently perfectly well. Another patient is a ii-para of 24, in fair health six years after the diagnosis of bilateral renal tuberculosis. Another is an apparently healthy woman of 23 with a healthy child: seven years ago bilateral apical processes and unilateral renal symptoms indicated extirpation of the left kidney. It had been recommended by leading surgeons, but was refused by the family. All these and other cases show, he declares, the great value of systematic dietetic, fresh-air and outdoor treatment of tuberculous processes in the urinary apparatus, especially when supplemented by tuberculin treatment. He urges that cases of renal tuberculosis which are not regarded as favorable for operative measures, on account of complications in other organs, should be given the benefit of general treatment with the assumption that they are bound to improve and that the patients are by no means doomed to a speedy demise. Treatment requires extreme perseverance and combination of every possible means, especially efforts to inspire the patient with confidence and strengthen his will power. In all this material of 104 cases, tuberculous meningitis was not observed in any instance. He is inclined to ascribe the frequency of tuberculous meningitis in others' experience to the over-active procedures, especially the catheterization of the ureters for testing the functioning of the kidneys. The evil results were particularly prominent in the cases in which the process was found too extensive for operative treatment. Just as in active methods with tuberculosis of the joints, virulent material is mobilized and conditions produced favoring development of meningitis. In conclusion, he reaffirms that non-operative treatment of renal tuberculosis should by no means be inactive and purely expectant, but a systematic, persevering application of every suitable measure known to date.

Zentralblatt für Chirurgie, Leipsic.

September 5, XXXV, No. 36, pp. 1065-1088.

89 Implantation of Piece of Rib in Pedunculated Flap to Fill Defect After Resection of Jaw. (Osteoplastischer Ersatz nach Kieferresektion (Kieferdefekten) durch Rippenstücke mittels gestielter Brustwandlappen oder freier Transplantation.) E. Payr.

Zentralblatt für Gynäkologie, Leipsic.

September 5, XXXII, No. 36, pp. 1169-1200.

90 *Appeal for Uniformity in Cancer Statistics. (Vorschläge zur Einigung über eine brauchbare Karzinomstatistik.) G. Winter.

91 *Allowing Puerperæ to Get Up Early. (Aufstehen der Wöchnerinnen in den ersten Tagen des Wochenbettes.) v. Alvensleben.

92 Pessary Treatment of Convoluted Uterus. (Pessar bei dem schneckenförmigen Uterus.) Bossi.

90. **Plea for Uniformity in Cancer Statistics.**—Under this heading The Journal, March 14, 1908, page 926, summarized the urgent appeal of Prof. G. Winter, Königsberg, Germany, for a uniform basis for collection of cancer statistics. He believes that important lessons will be learned from comparison of statistics in regard to uterine cancer compiled according to a uniform plan. He outlined a method and begged for expressions of opinion in regard to it and suggestions for its improvement. He here states that he received replies to this appeal from forty-nine gynecologists, and reviews their communications in detail. Ahlfeld and Freund stated that they have no suggestions to make, the former as he has practically retired and the latter as he thinks that it is impossible to collect reliable "objective" statistics at present. Thirty-one unconditionally endorsed Winter's outlined plan; thirteen proposed various minor changes. Winter publishes their suggestions each in detail and in a parallel column his discussion of them. Some he accepts and others are merely intensification of his own ideas. In conclusion, he recapitulates his proposed uniform method as modified, based on: 1, Primary results of operation; 2, operability; 3, permanent results; 4, formula for computing permanent results; and 5, the absolute number of cures. The primary results of operation (1) are obtained by listing all the fatalities from any cause during and after the operation. A case is declared inoperable (2) when the local examination or the local findings when the abdominal cavity is opened render a radical operation impracticable or when the commenced radical operation can not be completed. The permanent results (3) are based on five years of freedom from recurrence. (Communication of the results at shorter intervals may have a value for certain purposes.) The computation of the permanent results (4) is based on the number of patients remaining after excluding all cases in which the patients succumbed during or soon after the operation or from any cause during the five years following the operation or were lost track of. If autopsy reveals the cause of death during the five years' interval as in any way connected with the carcinoma, the case must be counted with the recurrences. The absolute number of cures (*absolute Heilungszahl*) is the remainder left after subtracting the number of inoperable cases (2), the number of deaths during or after the operation (1) and the number of cases of recurrence. The absolute cures thus mean the absolute number of recoveries based on the percentage of patients with cancer who apply for relief who are made permanently healthy by the operation in that they survive the operation and escape recurrence later. Prochownick suggests that the statistics of various small operators should be collected by the medical societies to which they belong and be published in a comprehensive summary. Zurhelle urges that all the larger statistics that have been published in recent years should be gone over again and rearranged according to this uniform plan. Examples of the application of the formula were given in the summary of Winter's previous article, page 926, above mentioned. The list of thirty-one specialists who endorse unreservedly his proposed method includes A. Martin, Zweifel, v. Winckel, Wyder, Werth, Stoeckel, Sarwey, Runge, v. Rosthorn, Knauer, Jung, Hofmeier, Heinricius, Hegar, Franz, Fritsch, Ehrendorfer, Chrobak, Bumm, Meyer, Leopold, Staude, Laubenberg, Baumm, Sperling, Lange, Amann, Engström, Zurhelle, Prochownick and Sippel. In addition to these, the systems proposed by Döderlein-Krönig and Koblanck fit exactly into his method. No American gynecologist seems to have taken part in the discussion, but Winter pleads with all to join with him in this task of obtaining uniformity in cancer statistics. Even those who do not approve entirely of his system he begs to yield their preferences for the sake of the imperatively needed uniformity.

91. **Allowing Puerperæ to Get Up Early.**—This communication from Pfannenstiel's clinic at Kiel relates excellent results in 100 obstetric cases in which the women were allowed to get up from the first to the fourth day. Alvensleben emphasizes that this getting up does not mean resuming household duties. He declares that this shortening of the period in bed is a distinct advance and will materially reduce morbidity. The principle should be the same combination of rest and exercise found useful in orthopedic and heart affections.

Gazzetta degli Ospedali e delle Cliniche, Milan.

August 23, XXIX, No. 101, pp. 1065-1080.

93 Experimental Ocular Tuberculin Reaction. (Oftalmoreazione tubercolare.) V. Maragliano and Romanelli.

94 Antigens and Cellular Antibodies in Serum in Kidney and Liver Disease. (Antigeni ed anticorpi cellulari in sieri di sangue patologici (nefritici-epatici.) G. Italo, S. Luigi and C. Ezio.

95 *Inflammation in and Around the Cervix in Pregnancy, and Its Treatment. (Cervicite ed endocervicite in gravidanza e sulla relativa cura.) T. Prandi.

96 *Importance of Certain Functional and Physical Symptoms in Incipient Pulmonary Tuberculosis. (Diagnosi dei primissimi stadi della tuberculosi polmonare.) R. Passini.

95. **Cervicitis in Pregnancy.**—Prandi reports in detail 14 cases and declares that inflammation in and around the cervix during pregnancy is much more common than is generally realized. It occurs mostly in pluriparæ, and is liable to cause general disturbances and others outside of the genital sphere. Prompt benefit was obtained with the Bossi treatment. This includes general hygiene and tonics, with repose more or less complete proportionate to the intensity of the lesion, supplemented by lavage of the vagina with a 0.025 or 0.05 per cent. solution of mercury bichlorid. In the severer cases he cauterizes with a 50 per cent. solution of carbolic acid once a week, followed by dusting with a disinfectant powder. Prandi adds that he found cervicitis in 156, that is, in 11.5 per cent. of 1,320 pregnant women at the Turin gynecologic clinic during 1906 and 1907.

96. **Diagnosis of Incipient Pulmonary Tuberculosis.**—Passini lays great stress on the discovery of anomalies and defects in development as aiding the diagnosis of tuberculosis processes, especially muscular atrophy, also a slight increase in the frequency of respirations, a tendency to asthma and anomalies in the respiratory movements and excursions. The breathing changes from the female type to the diaphragmatic. Retraction of the upper intercostal spaces and of the supraclavicular and jugular fossæ is another important sign, as also delay in the expansion of one lung, changes in the percussion findings along the spine, a clavicular souffle and systolic murmur in the subclavian, transmission of the heart sounds to the region of the affected lung, and râles heard in the mouth. He reviews a long list of functional and physical symptoms liable to be encountered, and states that in his experience the most striking symptoms were always the cough, gastric disturbances, palpitations, chloro-anemia, emaciation, phosphaturia and pains in the chest. He has noticed rapid enlargement of the lymphatic glands with the onset of tuberculosis, just as with syphilis. Other signs that have proved of differential importance are the whitish or bluish halo on the gums, reflex dilatation of the pupil, deformity of the fingers, yellowish pallor, brownish tint around the nose, eyes, at the temples and on the back of the hands, brownish yellow spots on the brow and cheeks, herpes zoster, redness in the zygomatic region, hypoplasia of the breast on the side of the lesion and change in the shape of the uvula. None of these is pathognomonic, but helps to tip the scale. He found that polyuria is often a premonitory symptom; the coincidence of diabetes insipidus with pulmonary tuberculosis is too frequent to be ascribed to mere chance. An increased tendency to sweat readily and to have the temperature rise after physical exertion or emotions are also useful hints.

Hygiea, Stockholm.

July, LXX, No. 7, pp. 593-400.

97 *Life Insurance and Certificates of Causes of Death. (Sammanställning af dödsorsaker.) J. E. Johausson and O. Medin.
98 Successful Removal of Brain Tumor. (Hjärntumör.) G. Söderbergh.
99 Ocular Tuberculin Reaction. V. Malmström.
100 Action of Tears on Bacteria. (Om den mänskliga tärvätskans inverkan på bakterier.) C. Lindahl.
101 ·Recovery After Bilateral Detachment of Retina. (Dubbelsidig näthinneaflossning gående til hälsa.) J. Wimark.

97. **Life Insurance and Certificates of Causes of Death.**—Since 1904 *Johansson* and *Medin* have been working on a committee to compile a set of tables to take the place of the expectancy tables, etc., made up from the statistics of seventeen English life insurance companies. The committee has been overhauling the records of nineteen Scandinavian companies, Swedish, Norwegian, Danish and Finnish; the task is completed and the detailed report is now in press. In this communication they review the causes of death as given for 10,274 deaths among 118,162 insured. The nomenclature is that generally adopted for international vital statistics, but they classify the material in eighteen groups in a practical way, especially important for life insurance purposes and for study of epidemic tendencies. The list includes only the normal insured, not the extra risks. Only 101 died of senile affections. but 1,653 succumbed to various forms of tuberculosis, 760 to pneumonia and 51 to pleurisy, 113 to appendicitis, 274 to syphilis, 631 to epidemic diseases, 500 to septic affections, 235 to alcoholism, 164 to diabetes, 109 to mental affections, 345 to organic heart trouble, 66 to gastric ulcer, 379 to cancer of the stomach and 427 to cancer elsewhere. In connection with these tables, which fill seven pages and are readily understood even by those who do not comprehend Swedish, Medin expatiates on the ways in which medical examiners are liable to err in making out their certificates. Among the thousands of medical certificates examined he found innumerable specimens of wretched and illegible handwriting. The life insurance certificates are not for medical eyes; they pass from hand to hand, and their records are copied and made to serve a number of statistical purposes, while they are liable at any time to be spread before judges and juries. Carelessly written certificates, scrawls of handwriting, detract immensely from the prestige of the medical profession as a whole and from the reputation of the individual examiner in particular. The same applies to the spelling, and here he relates examples of incorrect spelling, both of Latin and home terms. Diphtheria, for instance, hemiplegia and phthisis, were spelled in numerous ways, and even with the Scandinavian terms the writers displayed great originality in their spelling. He insists that this is unpardonable in a life insurance certificate, as it reflects discredit on the whole medical body in the eyes of so many outsiders. Another unpardonable sin in his estimation is to state as the cause of death merely a single symptom. The statement "heart failure" should be discarded forever in certifying to the cause of death. The term "uremia" is not much better, and "abdominal affection," "coma" and the like. "Hemorrhage from the lungs" is generally accepted as classifying the case under the heading of tuberculosis, but this is not inevitably correct. Rupture of the intestine may occur also from various causes, and it is of the greatest importance to seek out and state the underlying disease. Physicians should not shrink from certifying to alcoholism or syphilis when it is the primary trouble; they should not content themselves with certifying merely to some casual symptom or terminal localization as the cause of death. He warns further against the exceeding bad taste of using a flippant or slang term in stating the cause of death. He states that he found 173 different terms employed by various writers, including 78 Latin terms, merely to express tuberculosis; they ranged from "chest trouble," "tubercles in the lungs," "tuberculous inflammation of the lungs," etc., to "phthisis duplex." Much ink, time and effort were wasted in this attempt to improve on the simple word "tuberculosis." The insurance authorities do not want the autopsy record; all that is required is the simple word defining the main disease responsible for the death. If symptoms or complications are mentioned, they should be distinctly marked as of secondary importance. The primary affection should be given first. What can be made, for instance, of one certificate he came across in which the cause of death was given as "inflammation of the stomach, peritoneum and salivary glands"? If a fatal acute peritonitis was the result of appendicitis, gastric ulcer or cancer, these should be mentioned as the cause of death, not the peritonitis. In conclusion he warns solemnly against the frequent practice of certifying in a case of suicide that it occurred while the patient was temporarily insane. When called on to defend this statement, as the medical examiner when the policy was issued had certified to the applicant's mental soundness, the physician is tempted to shrug his shoulders at the examiner's having found the applicant mentally sound, thus casting a slur on his testimony and doing irreparable damage to the prestige of the medical corps as a whole. The physician must bear in mind that time frequently reveals some all-compelling motive for a suicide to which even a sound mind may yield.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

Husband's Practice of Medicine, Designed for the Use of Students and Practitioners. Rewritten and enlarged by Robert F. C. Leith, M.A., M.Sc., M.B., C.M., F.R.C.P.Ed., Professor of Pathology and Bacteriology, Birmingham, and Robert A. Fleming, M.A., M.D., F.R.C.P.Ed., Lecturer on the Principles and Practice of Medicine, School of Medicine of the Royal Colleges, Edinburgh. Cloth. Pp. 1141. Price, $3.00. Edinburgh: E. & S. Livingstone, 1908.

Industrial and Personal Hygiene. By George M. Kober, M.D., LL.D., Chairman of Committee on Social Betterment of the President's Homes Commission, Professor of Hygiene, School of Medicine, Georgetown University. A Report of the Committee on Social Betterment. Pp. 175. Published by the President's Homes Commission, Washington, D. C., 1908.

Neurological and Mental Diagnosis, A Manual of Methods By L. Clark Pierce, M.D., Senior Attending Physician, Hospital for Nervous Diseases, New York, and A. Ross Diefendorf, M.D., Lecturer in Psychiatry in Yale University. Cloth. Pp. 188, with illustrations. Price, $1.25. New York: Macmillan Company, 1908.

The Problem of Age, Growth and Death: A Study of Cytomorphosis Based on Lectures at the Lowell Institute, March, 1907. By Charles S. Minot, LL.D. (Yale, Toronto), D.Sc. (Oxford). Cloth. Pp. 280, illustrated. Price, $2.50. New York: G. P. Putnam's Sons, 1908.

The Third Annual Report of the National First Aid Association of America. Third Annual Meeting, Held at the Parker House, Boston, Monday, June 8, 1908. Incorporated under the laws of the District of Columbia. Executive Office, 6 Beacon Street, Boston.

Diseases of the Eye. By M. Stephen Mayou, F.R.C.S., Assistant Surgeon and Pathologist, Central London Ophthalmic Hospital, Etc. Cloth. Pp. 388. 127 illustrations, 8 being in color. Price, $1.25. New York: Oxford University Press, American Branch, 1908.

Hay-Fever, Hay-Asthma, Its Causes, Diagnosis and Treatment. By William Lloyd, Surgeon-in-charge of the Nose, Ear and Throat Department, Kensington General Hospital. Cloth. Pp. 98, with illustrations. Price, $1.25. London: H. J. Glaisher, 1908.

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Original Articles

CHRONOLOGIC AND ANATOMIC AGE IN EARLY LIFE

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BOSTON

Up to the present time the age of an individual has been computed by years. This rule will probably always hold good in all civilized communities from a legal point of view. When, however, the question of age is brought to bear on our school systems, whether in classifying and grading children as to their studies, or in pitting them against each other in athletic sports, it becomes a very serious question as to whether chronologic age is a wise division during the formative period of early life. Again, when the important question of child labor is brought before us, and we have to determine at what age a child should be allowed to work, and what the degree of that work should be according to the chronologic age, the decision becomes momentous, and we can at once see that a chronologic division for this purpose is not only insufficient but clearly pernicious. It behooves us then to look at the question of age in early life, first, from a chronologic point of view, manifestly legal; second, as regards athletics, manifestly anatomic; third, educational as regards school grades, manifestly physiologic and anatomic; fourth, child labor, manifestly a combination of chronologic, physiologic and anatomic conditions.

Legal chronologic age does not enter into this discussion.

Anatomic age must be carefully studied before school grades and child-labor can be dealt with intelligently. From a medical point of view the physiologic and anatomic conditions can for the present be considered as one, since at this point of the discussion we can consider the normal physiologic development of the various functions as corresponding to and keeping pace with the normal anatomic development. I wish it to be understood, however, that this supposition is merely preliminary to some work which I expect to carry out later on this subject, namely, whether it is true that deductions made from a physiologic standpoint can be properly used when compared with anatomic conditions.

Having determined what the anatomic growth is at different stages of development during the growing period, we can then apply this knowledge to the broad questions of education and of child labor.

The question at once presents itself as to the best method for determining the normal anatomic development from birth to perhaps fourteen years, and expressing it in as small intervening periods as is possible and practical by means of our present anatomic knowledge. This anatomic knowledge, however, should represent the different stages of living anatomy, rather than depend on the results obtained from studying dead anatomic conditions. As our knowledge advances the anatomic intervals will become shorter and shorter. There is no doubt that, in accordance with a somewhat extended study which I have made on the subject during the last two years, I have acquired sufficiently reliable data to make a much closer estimation of age from an anatomic point of view than could possibly be acquired from a chronologic. I believe that in the future we shall determine age, whether for gymnastics, athletic sports, kindergarten, school or child-labor, by means of anatomic conditions rather than by chronologic periods.

As an instance of the unreliability of chronologic age can be cited the term "puberty," a physiologic condition which is supposed to occur at a certain chronologic age. According to Crampton's admirable work on this subject, the age at which puberty in a group of children of the same chronologic age and of either sex is attained as expressed by years is fallacious, and indeed practically so variable as to amount to nothing.

Groups of boys of the same age and in the same grade in school, their grades being determined by their years of age, were found to vary perhaps by a year or a year and a half, not only in their height, weight, strength, and in the eruption of their permanent cuspids and second molars, but also in their being bright, moderately bright or dull.

With these results of Crampton before us it is manifestly absurd to place children of the same chronologic age necessarily in the same grade at school, and therefore some more practical classification should be sought for if children are to be intelligently dealt with during their school years.

In a study regarding the eruption of the teeth in about one thousand elementary-school boys from ten to fifteen years of age it was found that the appearance of the teeth had but a slight relation to the actual chronologic age.

If an anatomic classification can be made it will make no difference in its practical application whether the individual child is healthy or unhealthy, normal or abnormal, is of one race or another, or of one physical parentage or another, except so far as boys and girls can be separated normally in their anatomic development. That is, with such an anatomic classification we can practically work out our problems of child life, irrespective of whether the individuals are boys or girls and whether the girls menstruate early or late.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908. The article is here abbreviated by the omission of part of the text and six of the illustrations. The complete article appears in the Transactions of the Section and in author's reprints. A copy of the latter will be sent by THE JOURNAL of the American Medical Association on receipt of a two-cent stamp.

This *anatomic classification* also is clearly valuable for the purpose of adapting children from birth to adolescence to their proper healthy surroundings and to a life suited to their individual strength and capacity. In order to study this question, namely, how to determine the normal conditions of young human beings from birth to thirteen or fourteen years of age, certain preliminary investigations are necessary.

With this end in view I have had about two hundred children, who, according to our previous ideas, should be considered normal in the different years of life, examined carefully.

It was noted whether the child was bright or dull mentally, its general condition as to looks, its various functions, its appetite, and what diseases, if any, it had previous to the time of the examination. Its age was noted; at what time it sat and stood alone; a record of its weight and height was made; if a girl, whether the catamenia had appeared, at what age, at what intervals and with what regularity; also at what age the mammæ began to develop and their present condition. The circumference of the head was noted, and also any information which could be obtained as to the closure of the fontanelles, and at what time the first dentition began, whether the temporary teeth had appeared at regular intervals, when the second dentition began, and whether it was being carried on regularly. A Roentgenograph was then taken of the carpal bones and the child was classified and placed in the division to which the bones of its wrist corresponded. Roentgenographs were taken only of children who were shown by examination to be presumably normal in their development.

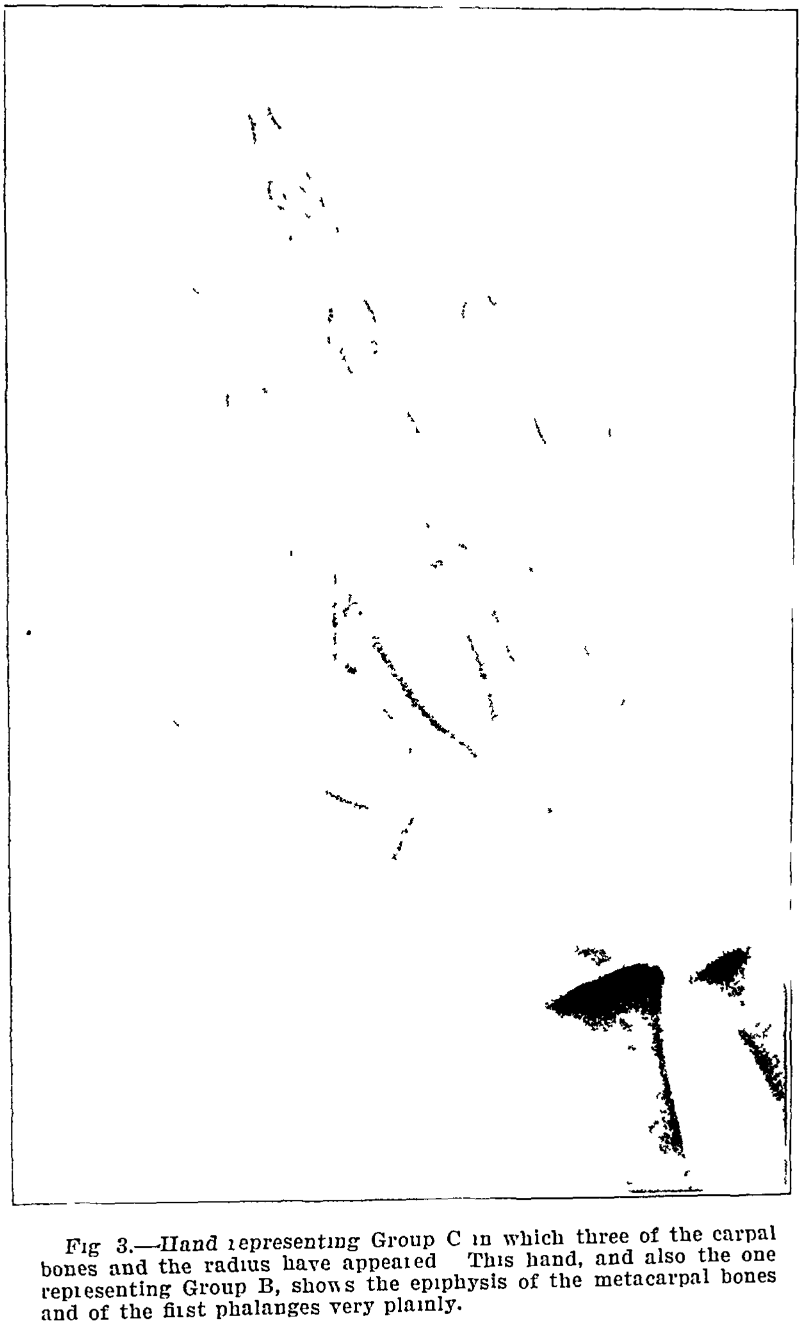

Fig 3.—Hand representing Group C in which three of the carpal bones and the radius have appeared This hand, and also the one representing Group B, shows the epiphysis of the metacarpal bones and of the first phalanges very plainly.

In order to classify the different periods of early life on an anatomic basis which will be of practical use in *athletics and in school and for questions relating to child labor*, it is evident that some reliable anatomic standard, chosen to represent the entire physical development, should be found. It is also important that such an *anatomic standard should be readily obtained and should be determined in the living child with the least degree of complexity and in the most simple form possible.* In the study of about five hundred healthy children at the Children's Hospital by means of the Roentgen method, our Roentgenologist, Dr. A. W. George, found that the most practical and reliable index of development was represented by the hand and wrist. It is true that various changes which progressively take place in the development of the shoulder, elbow, knee and ankle are perhaps somewhat finer than those of the wrist, but for the purpose of obtaining a practical and rapid knowledge of the progressive normal changes occurring at different periods of child life they do not compare with what can be accurately acquired in a few minutes from the wrist and hand. It has therefore occurred to me that a careful study of the normal and anatomic conditions present in the bones of the hand and wrist during different stages of their development would best aid in classifying the different periods of child life, and having formulated such a classification we could then prac-

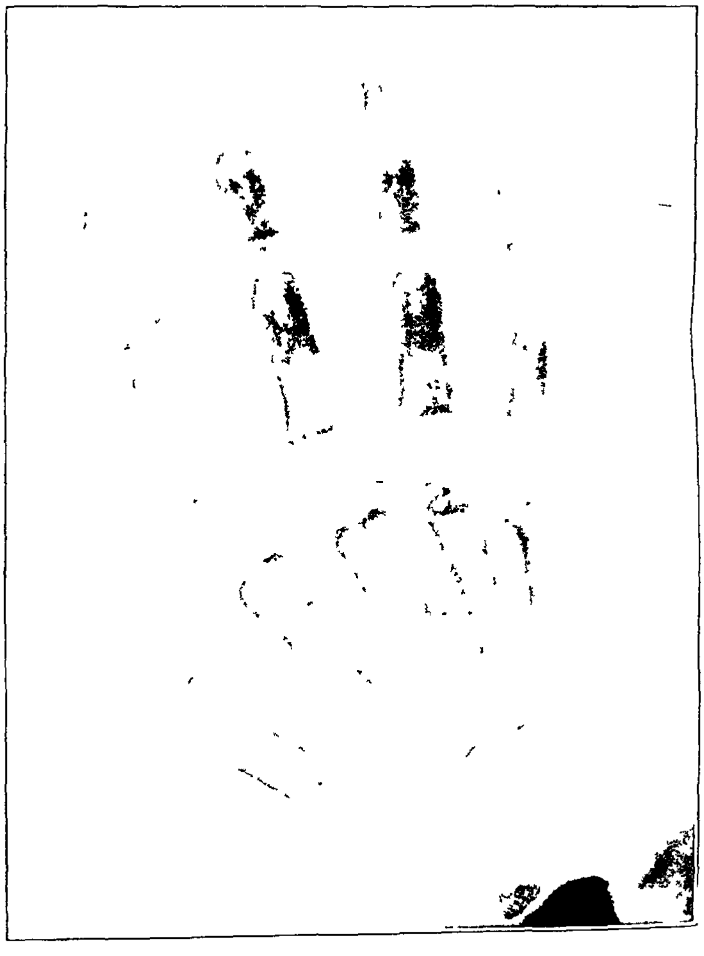

Fig. 4.—Hand representing Group D; shows four bones

tically apply it to the many physical and educational problems that confront us. .

In making this classification it must be understood that I am not dealing with stages of development as represented by years, but that my divisions are placed under letters; that is, having taken perhaps ten or twelve children of each age chronologically I have then placed them under their respective stages of anatomic development as shown by the wrist, designating these stages by A, B, C, D, and so forth. I have then used these different stages for purposes of grading for kindergarten, for school, for athletics and for child labor.

In making up these alphabetical groups I have arbitrarily assumed that the carpal bones and the lower epiphyses of the radius and ulna, according as they develop early or late, can represent each alphabetical division. I have also assumed that none of these bones are normally present at birth. Also assuming that the os magnum and unciform bones appear in the first year, I have placed this group of cases under A. Under B, I have grouped those hands which show the presence of the lower epiphysis of the radius in addition to the bones present in Group A; under C those which show the presence of the cuneiform bone, in addition to those in common with A and B. The heads of the metacarpal bones and the epiphyses of the first phalanges at this period can be used as controls of this Group C. Still under these arbitrary divisions I have continued to place groups which successively show the presence of the semilunar and trapezium bones, with the second and fourth terminal phalanges as controls of this group and have then introduced as additional groups those which show the scaphoid, the trapezoid, the lower epiphyses of the ulna and the pisiform bones. These primary divisions are shown in Table 1. This table can be used as a key by which we can determine under which alphabetical division an especial case should be placed. It is fortunate that the carpal bones and the lower epiphyses of the radius and ulna furnish a progressive series of anatomic developments year by year, so that only in unusual cases will it be necessary to refer to the other epiphyses of the skeleton for corroboration.

In pursuing this investigation I have allowed for what appeared to be marked variations from the normal development and have made my divisions irrespective of these deviations by grouping those cases together which are manifestly in about the same stage of development in the large majority of cases. The divisions which I have made may subsequently have to be changed as further investigations are carried out in this line of study. In order, however, to formulate and start what I believe in the future will be found to be of great aid to us in dealing with the early years of life, both anatomic and physiologic, it is necessary to begin by arbitrarily suggesting these groups of classification as they ap-

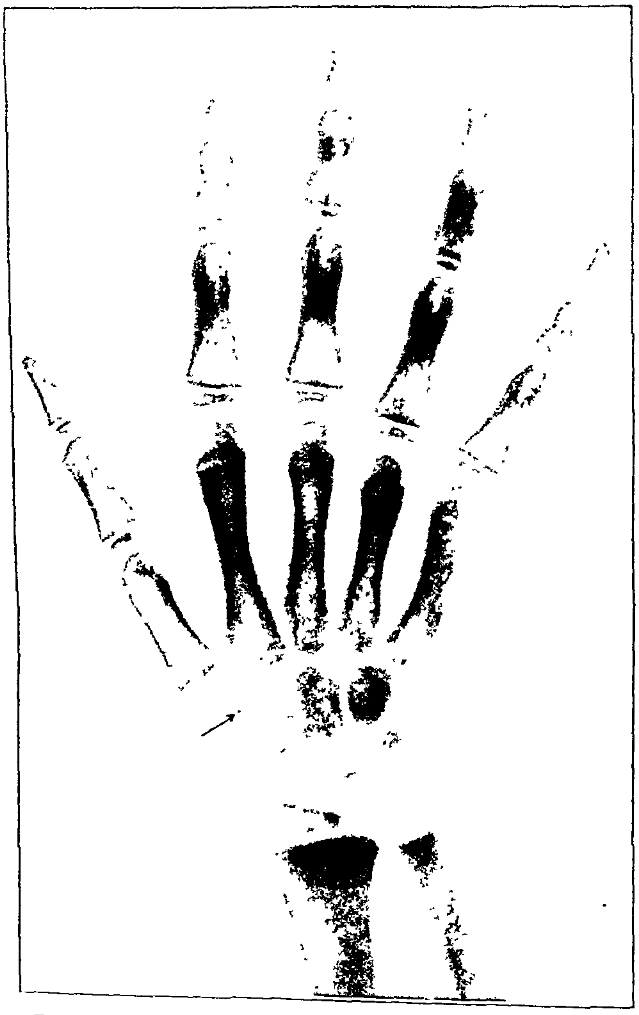

Fig. 5.—Hand representing Group E; shows five of the carpal bones, in addition to the epiphysis of the radius. The fifth bone as it appears is still quite small and is possibly somewhat smaller than what an absolute normal stage of development would show, and it is a question whether we are dealing with the scaphoid or trapezium. The reproduction is about 5/6 actual size.

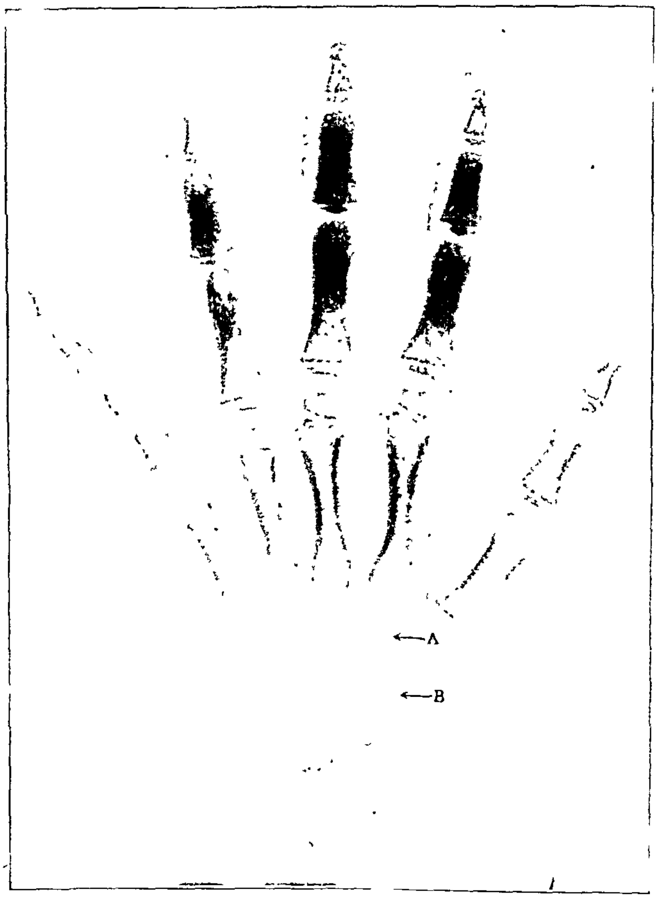

Fig 6.—Hand representing Group E; shows an additional bone, this time probably the trapezium, the six bones, in addition to the epiphysis of the radius, marking the development which has been described as belonging to Group F. The reproduction is about 5/6 actual size.

peared to my eye to show uniformity. Some rather interesting observations in this connection have already come under my notice. For *instance*, a hand may be long or short, broad or narrow, and yet the Roentgenographs will show that they may have the same degree of anatomic development, showing also that they should be classed together in one group, and that in making up this group we can not be guided, except in a limited degree, by the external appearance of the hands.

I have also noted in my study of these two hundred cases that a large hand, with large bones, as shown by the Roentgen picture, does not necessarily imply advanced development, for the development of these large bones need not necessarily be great. I have noted also that the normal appearances shown in Roentgenographs of the hands of boys and girls do not materially differ. Also to be noted is that the left hand does not show any material difference in development from that of the right hand; also that in all probability it will be found that many of the statements which have been made in the past in the different anatomies, and which are the results of investigations on dead anatomic subjects will be proved eventually to be incorrect when subjected to the more exact observations which can be carried out on the living subject.

TABLE 1.—DEVELOPMENT OF CARPAL BONES AND LOWER EPIPHYSES OF RADIUS AND ULNA.*

Fig.		Age in years.		
1.	Girl......	½	A.	Os Magnum, unciform.
2.	Girl......	2¾	B.	Os Magnum, unciform, lower epiphysis of radius.
3.	Girl......	2¾	C.	Os magnum, unciform, radius, cuneiform.
4.	Boy......	2¼	D.	Os magnum, unciform, radius, cuneiform, semilunar.
5.	Girl......	3½	E.	Os magnum, unciform, radius, cuneiform, semilunar, trapezium or scaphoid.
6.	Girl......	5½	F.	Os Magnum, unciform, radius, cuneiform, semilunar, trapezium, scaphoid.
7.	Girl.	6½	G.	Os Magnum, unciform, radius, cuneiform, semilunar, trapezium, scaphoid, trapezoid.
8.	Girl.. ...	6	H.	Os Magnum, unciform, radius, cuneiform, semilunar, trapezium, scaphoid, trapezoid, lower epiphysis of ulna.
9.	Girl.....	6¾	I.	Same as Group H as to number of bones, but much more advanced in development.
10.	Girl......	8¼	J.	Same as Group I but more advanced in development
11.	Girl......	11¼	K.	Same as Group J, but pisiform bone appears just under the cuneiform, and all the carpal bones and epiphyses are much more massed and further advanced in development.
12.	Girl......	12¾	L	Same as Group K, but much more advanced in development; pisiform bone appears plainly at lower end of cuneiform
13	Boy......	13½	M.	Very much more advanced in development than L and the pisiform bone almost as large as the cuneiform. All the bones of the wrist are much more developed than in any previous group.

Notably one of these discrepancies is that while in a number of anatomies, both English, French and German, the lower epiphysis of the ulna has been placed as early as two and one-half years, three years, four years and five years, yet the appearance of this epiphysis in my two hundred cases was found to be very rare before the sixth year, and that it usually began to appear in my Group H, in which the children were from six to seven years old. It is also to be noted that while the development of the pisiform bone has been found to occur normally as early as the tenth year, and according to Porier the eighth year, yet in none of my cases have I found it before the twelfth year, except in one case in which it occurred as an anomalous variation in the eighth year. I have also noted that the appearance and development of the heads of the metacarpal bones are not especially satisfactory so far as classification is concerned, and should therefore be used more as controls in cases in which the development of the wrist is not sufficiently conclusive.

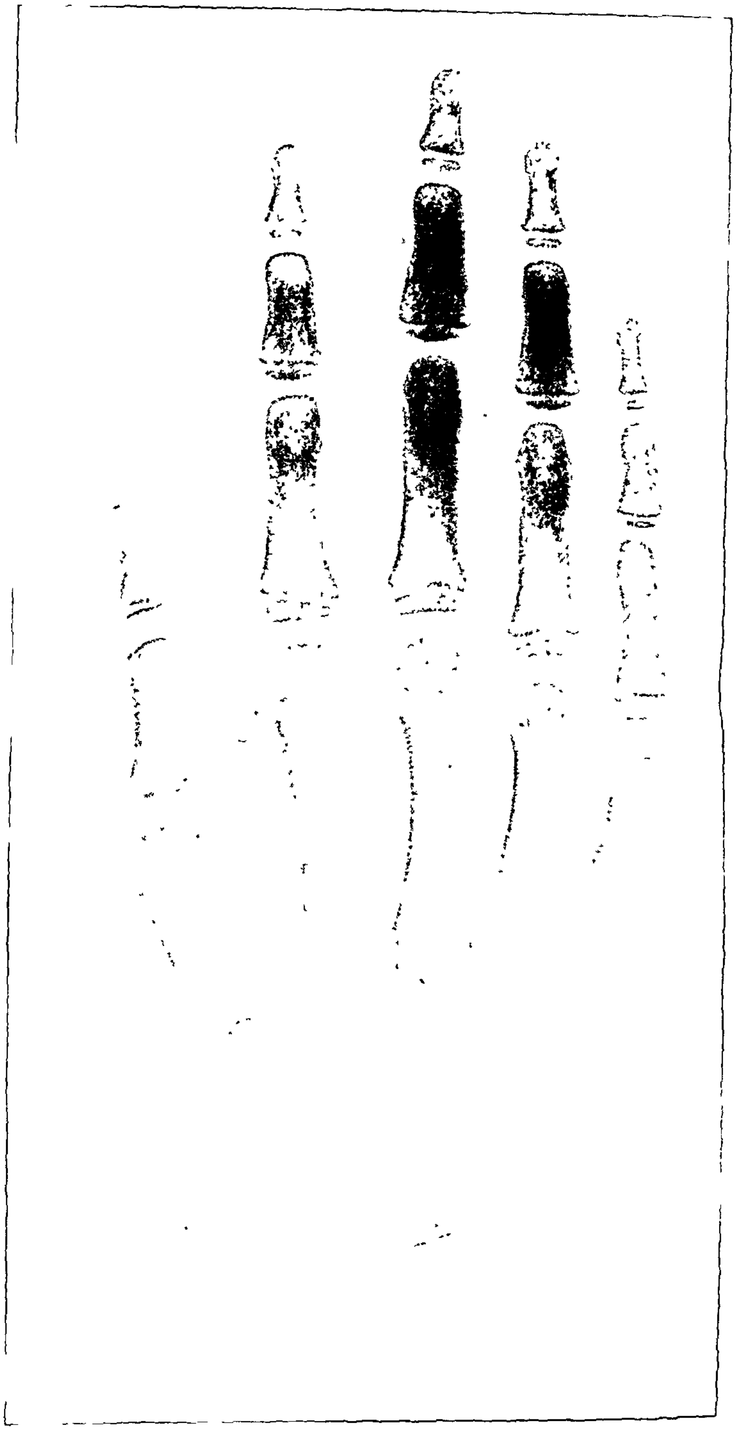

Fig. 7.—Hand representing Group G. It is now seen that all of the carpal bones, with the exception of the pisiform, are present.

In order to represent practically this classification we should have pictures which represent the development of the special group before us, and using these for comparison determine an individual child's anatomic age. I have prepared these pictures, choosing them as representative of their especial group. If this system of grading children proves to be correct and useful, it is very evident that, except legally, we should no longer think in years and months, but in normal anatomic classes, A, B, C, D, and so forth. We should also remember that all our physiologic knowledge should be rought to bear on this subject, using it in conjunction ith our anatomic knowledge and as a control on our atomic: also that in doubtful cases the development other parts of the skeleton, such as the shoulder, ow, hip, knee, ankle and foot, should be used as trols. We might indeed say that it is the sum total ll our physiologic knowledge, plus our knowledge e development of the entire skeleton and the different organs, which tell us how to solve the many problems of early life.

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*Only seven of the thirteen illustrations corresponding to the thirteen stages of growth here indicated, appear in The Journal. All the illustrations are reproduced in the reprints and in the Transactions of the Section.

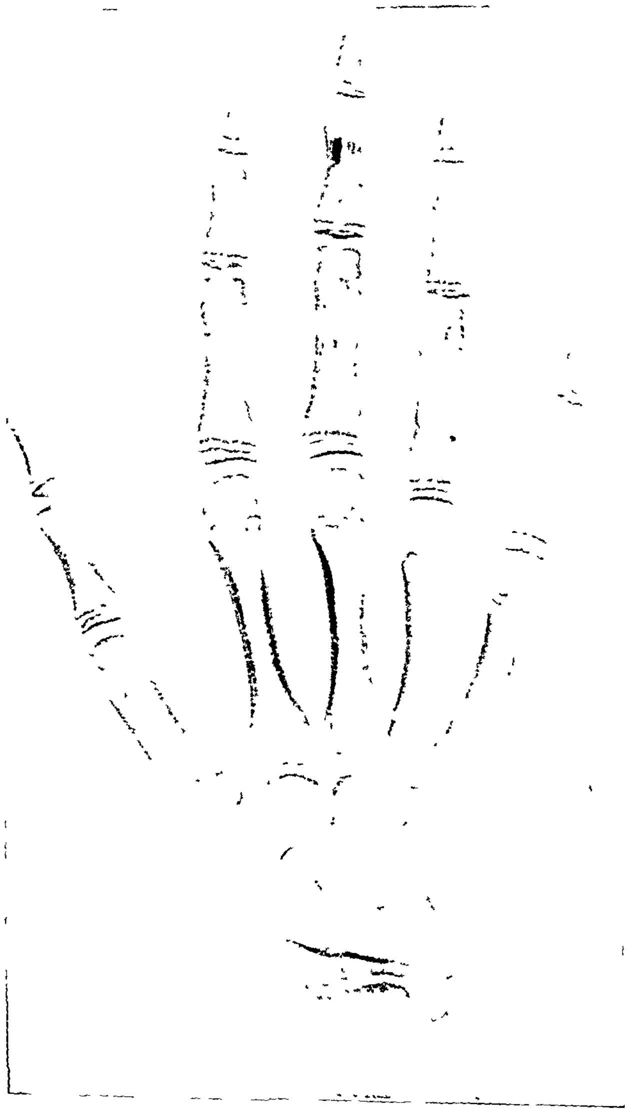

Fig. 10—Hand representing Group J; shows a still further development as to size and massing together than is shown in Group I.

These groups, of course, depend on my individual observation of such cases as have been shown to represent the majority of normal conditions rather than variations.

All the Roentgenographs of this series were taken by my Roentgenologic assistant, Dr. Benjamin E. Wood, to whom I return thanks for his aid in classification and in many other ways.

That the regulation of questions concerning the physical and mental care of the early years of life should be more under the control of the medical profession than is now the case becomes manifest when we consider what an intimate knowledge of medical subjects is required to understand these conditions fully and what advanced medical training is needed fully to grasp these questions and to treat them intelligently. Surely it is one of the gravest duties of physicians to turn their attention to all these subjects connected with children, and not to leave them to be worked out by the laity, who, although doing their best as educators to deal with these questions, can not accomplish that for which they are not fitted by long years of physiologic study.

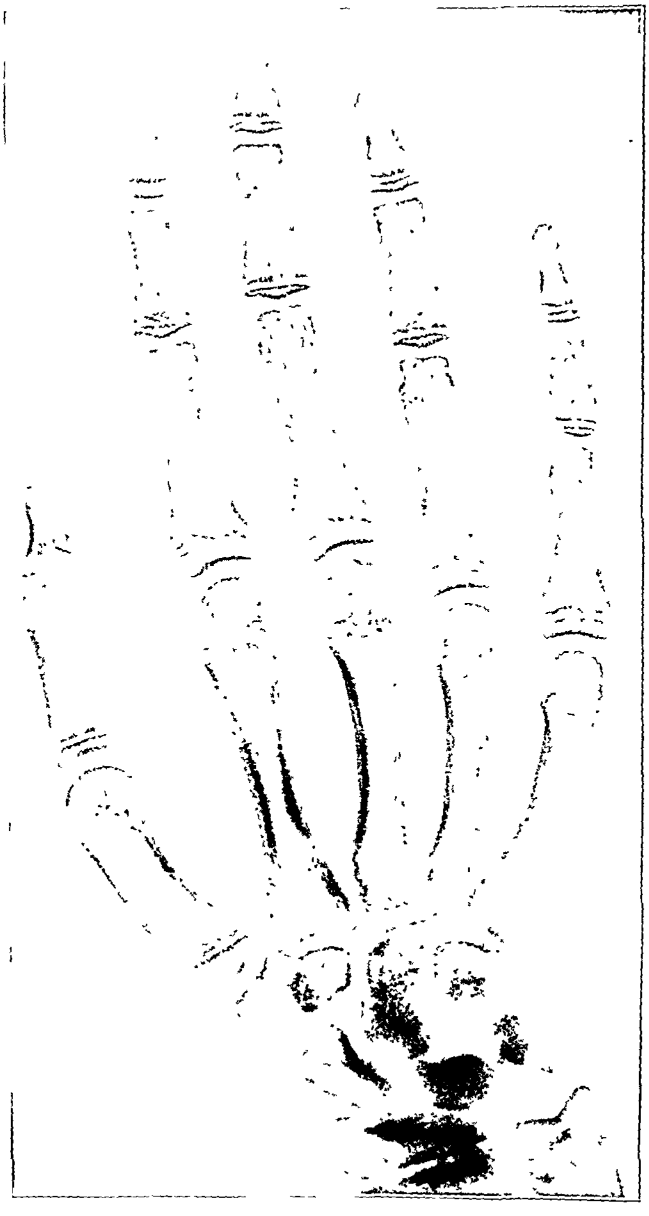

Fig. 12—Hand representing Group L; shows all the bones very much more advanced in development than in Groups J and K and also the pisiform bone now appears very plainly just under the end of the cuneiform bone. The arrow points toward this pisiform bone

It is the educator's place to see to it that the vital principles in connection with child life, a knowledge of which is part of the physician's life-work, are carried out in their endeavor to place educational questions on a rational basis.

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Such being our manifest duty any means by which we can judge in the readiest way of the physical and mental conditions of the individual, and in this sense care for and treat him personally according to his individual needs, should be adopted, since it is productive of much harm to group certain individuals rigidly as we are now doing in the same way as, for example, we would group a herd of mixed cattle.

If it is decided that by the Roentgen method applied to the hand young human beings can be classified as individuals it becomes a simple matter for the state or city by means of a Roentgen ray apparatus to make, for the purpose of classification, a preliminary examination by which physical conditions and the usually correlating brain vigor can be classified, for this can easily be done in an individual in less than a minute.

By classifying young children according to their anatomic age rather than by stated chronologic ages, we do away with chronologic rules, and by grouping the children according to the similarity of their physical conditions we avoid overstrain of both body and mind by protecting them from competition with their stronger and more vigorous companions of equal chronologic age.

To those who ask what is to be done with the precocious and bright children who are intellectually superior to their companions of equal chronologic age I would say that I do not believe that these bright children are, as a rule, being dealt with as they should be and as is best for their future welfare. Both parents and teachers wish to stimulate bright children in their studies and to have them graded with groups of children who are older and are better fitted physically to undergo school life without overstrain. According to the physician's point of view these children should not be allowed to be advanced on account of their mental brightness, but, on the contrary, should be kept out of doors as much as possible, and special attention should be paid to their physical development until such development has shown the normal conditions requisite for health.

As to the comparatively stupid children who present a normal or even more than normal physical development as shown by the Roentgen examination, they should be allowed to find their level in a lower grade and no great anxiety in regard to them need be felt.

In regard to gymnastics and to athletics many a boy or girl could by careful anatomic grading be saved from the reactive debility which so often arises from the overstrain of a physical handicap. From my investigations with the Roentgen ray on the carpal bones and epiphyses of the wrist in both boys and girls, it is very evident that when twenty boys or twenty girls are taken at random, except that they are all ten years old chronologically, if we pit ten of these individuals against the other ten, either in football or in basketball, we are running the risk of pitting in a contest of strength ten individuals who may be only nine or nine and one-half years old anatomically against ten who may be anatomically ten and one-half or eleven years old. Such a variation as this is often found when we classify chronologically instead of using the anatomic standard.

Finally, in regard to the question of child labor, it is certainly the duty of physicians to join hand in hand with educational, state and city authorities to prevent children from being allowed to work excepting under certain physical conditions.

I have already shown pretty conclusively that a child too undeveloped to be subjected to the strain of constant labor may be, so far as chronologic age is concerned, of the age demanded by the law for child labor, especially in factories. These laws of chronologic age differ in different states, and in some of the states there is not much to be found fault with in respect to the law. In others, however, the law permits children to begin work in the factories at entirely too early an age.

I shall not discuss this question of child labor very much in detail, as it is too broad a subject to become more than a slight part of a general paper, but there are certain facts connected with the determination of the child's physical condition which should manifestly be referred to here. In the first place, we know that a child may be only eleven years old and yet look as though it were twelve or thirteen. In like manner, in my investigations, I have found that a child may be thirteen years old and yet only have the normal anatomic development of eight years. This means that although it has the age of a child which would, according to the laws of certain states, allow it to work in the factories, yet really it is absolutely unfitted to do so. It may be said, of course, that these cases are rare, but it is very important to detect them when they present themselves: that is, the individual should be examined to see whether physically and physiologically he or she is fitted for work in the factories or elsewhere, and reliance should not be placed on chronologic age, for it has been clearly shown that chronologic age may commonly differ by a year or a year and a half from anatomic age.

Another question also comes up. The employment of children under legal age is not always the fault of those who employ the children in the factories or elsewhere, as the responsibility often rests in the hands of the parents themselves. For instance, if a girl is tall and looks older than she really is, the parents are often inclined to wish to make her earn wages for the support of the general household. Under these circumstances over and over again they will say that the child is as old as she looks and not tell the truth about her actual age. Again, often among the poorer classes in the south, the parents do not always know exactly how old one of their children is, as they may have forgotten. This not infrequently happens. Under these circumstances, how is the state law to be carried out justly when it is so handicapped by the lack of veracity and the ignorance of the parents, confirmed under certain circumstances by the outward appearance of the individual child? Manifestly, we should have some standard which does not depend on veracity, intelligence, memory, greed, or external appearances. This standard can be attained by means of the Roentgen method, which always tells the truth and is an open book to those who have learned to read its language. The very simplicity of the method—merely to have a child for half a minute put its hand on a table, and have this hand pictured by the Roentgen ray on a plate without harm and without the slightest danger—the technic being carried out by one who is skilled in the subject—must recommend it to all intelligent educators and state officials, as well as to physicians who know how important an aid to our medical armamentarium is the Roentgen method of examination.

It would seem that the influence of the medical profession should be brought to bear more than it ever has before on this subject, and as a safeguard to the health of the children throughout the states, to appoint a commission composed of those who, by their training as physicians, and as caretakers of early life, should inform the state at what degree of development it is safe to allow child labor to begin.

Of course a much further study of the carpal bones and of the epiphyses of the radius and ulna must be made until we have arrived at a definite conclusion as to what are to be considered and can be recognized as variations or anomalies. This, however, I believe is possible if a number of Roentgenologists and physicians throughout the country pay attention to this anatomic question.

In bringing before the medical profession this idea of using the Roentgen method for physical and mental classification, I wish it to be understood that I am merely asking it to endorse and educators to make trial of what seems, by a very careful study of the conditions connected with this subject, a probable means of doing justice to young human beings and of living up to our adult responsibility toward an otherwise unprotected period of life.

I have had to make arbitrary divisions, and these divisions should be studied and careful work of verification or refutation carried out on these lines. Such work, however, I believe to be worthy of trial, as, if successful, it simplifies the whole question of the guidance of child life, and wards off the dangers resulting from our present ill-advised management of the whole subject.

CONCLUSIONS.

1. A standard of development should be adopted in the interest of athletic and educational reform, and also to aid in the protection of child life.

2. This standard should be one which is reliable, and one which in that sense will be superior to what we can learn from parents and guardians concerning the age of the child.

3. We should investigate physiologic and anatomic conditions in our quest for a reliable standard of development.

4. Physiologic development probably corresponds to anatomic development.

5. A standard based on anatomic development is more simple than one based on physiologic development, and is less liable to be mistaken for anomalous conditions and variations.

6. The normal anatomy of the wrist is the best part of the skeleton to use as a standard index.

7. I therefore offer as an anatomic index the different stages of development of the carpal bones and the lower epiphysis of the radius and ulna.

8. If such an index can be perfected it is the duty of pediatricians to give their time, thought and influence to work out and perfect such a classification as I have indicated.

9. We should learn to think in divisions such as are represented by A, B, C, D, and not in months and years.

197 Commonwealth Avenue.

ABSTRACT OF DISCUSSION.

Dr. Abraham Jacobi, New York: I do not know of any systematic study of the bones of small children from the earliest age up to puberty with the same object in view that Dr. Rotch has had. The subject to me is new. I have seen a number of pictures of subjects of such and such an age, but they gave simple anatomic descriptions. Here the chronologic age and its comparison with the anatomic age are indisputable facts, and what we have seen with our own eyes will make a lasting impression. The paper is epoch-making. The conclusions drawn are in intimate relations with the whole life of the growing individual—anatomic, physiologic, pedagogic—that is why I look on that paper as one of the most important I have seen in many years. I have no doubt that after further investigation averages may be drawn that will differ slightly from those we have seen, because in place of the hundreds studied by Dr. Rotch there will be hundreds of thousands.

Dr. Isaac Abt, Chicago: In the past few years I have been trying to determine the proper age for the entrance of children into the kindergarten and school. I have asked teachers and parents for their opinions, and the information has been so varied that it has no real value. It is evident that there is at present no adequate standard. If the methods advanced by Professor Rotch help us to establish some standard of child development, we shall have made a marked advance.

Dr. Edwin E. Graham, Philadelphia: About two years ago I had a patient, a little girl, who had sustained an injury to the elbow joint. It became very swollen and at the Jefferson Hospital a skiagraph was made showing the absence of the olecranon process. This child would be in Group H. Dr. Rotch gave me the idea of studying these cases from the skiagraphs taken in an ordinary pediatric hospital. These skiagraphs showed that the anatomic age of the child would not necessarily in any way correspond with the chronologic age. It might or it might not.

Dr. R. B. Gilbert, Louisville: I think that writers on anatomy will have to revise their work. We have nothing in our anatomies to-day that gives these important facts. The idea that a child has no carpal bones to the age of 3 or 4 years is a surprise to me and I judge that it is to the others here to-day. Anatomically and osteologically alone, there still remains much to be learned about the child.

Dr. T. G. Allen, Chicago: My attention was called to this matter several years ago while I was doing a great deal of *x*-ray work. I was led to believe from observation of my radiograms of children that the statements in our works on anatomy in regard to the so-called ossification centers was fre-

ILLUSTRATING ARTICLE BY DR. LIEBERTHAL.

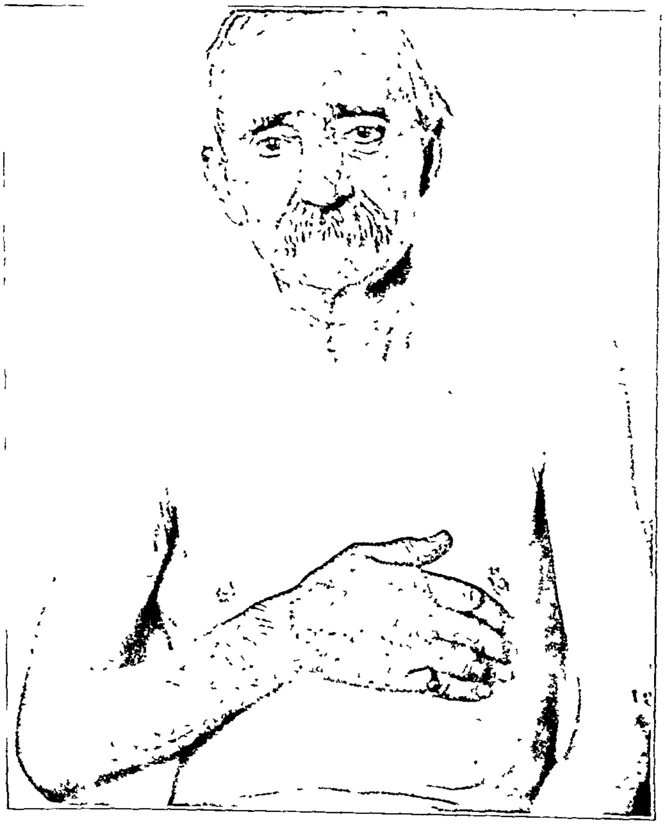

Fig. 1.—Patient with idiopathic multiple hemorrhagic sarcoma showing the tumor on the dorsum of right hand.

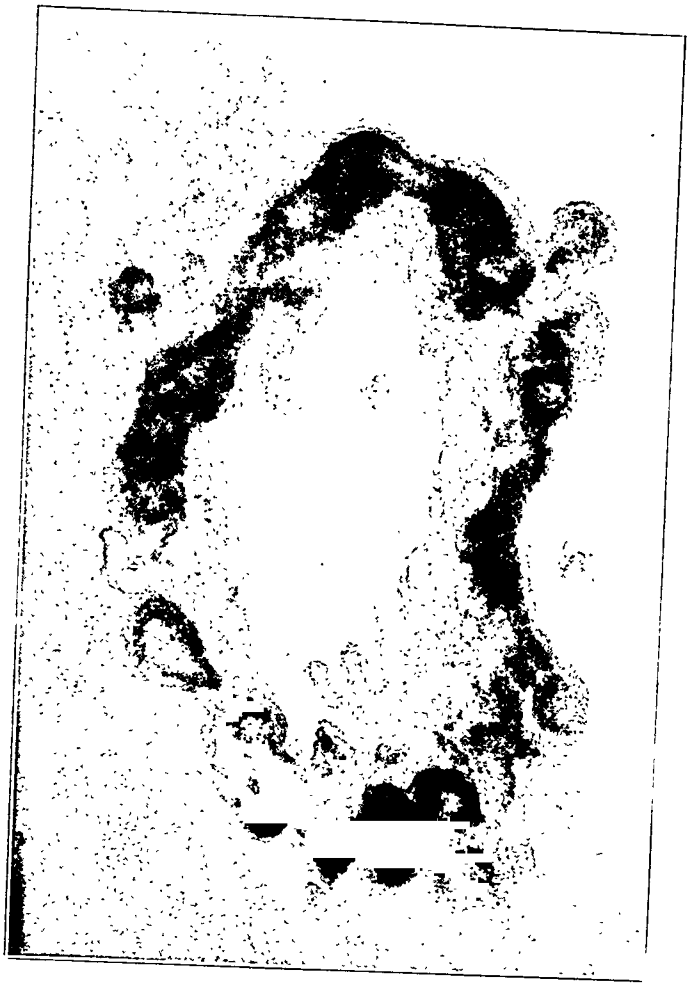

Fig. 2.—Plaque on the lateral aspect of the right thigh (from watercolor).

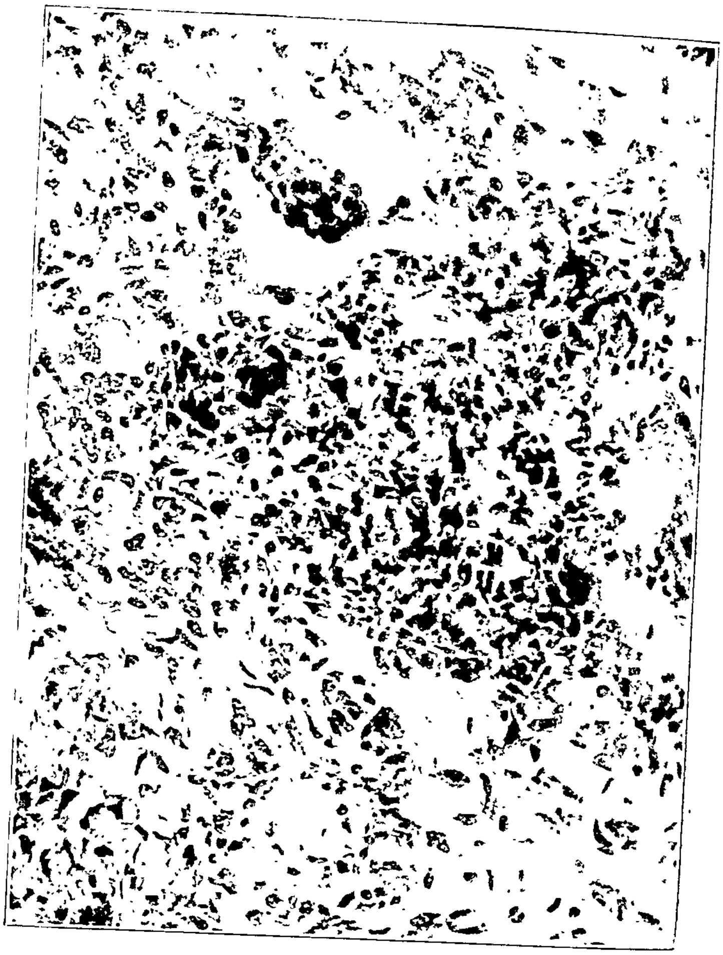

Fig. 4.—Another microscopic view. (350 ×)

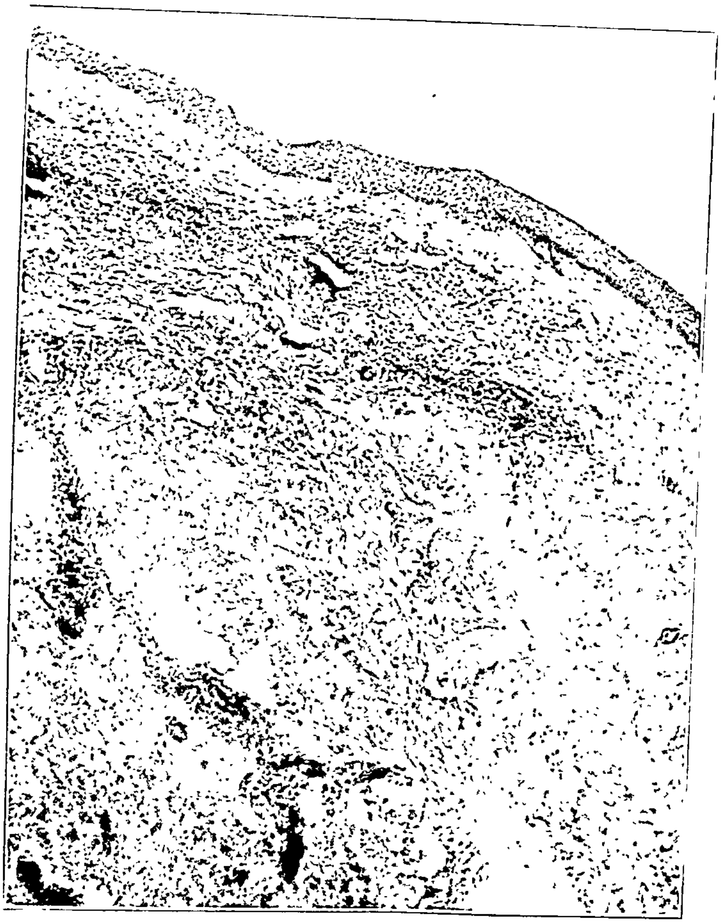

Fig. 3.—Specimen from patient illustrated in Fig. 1. (65 ×)

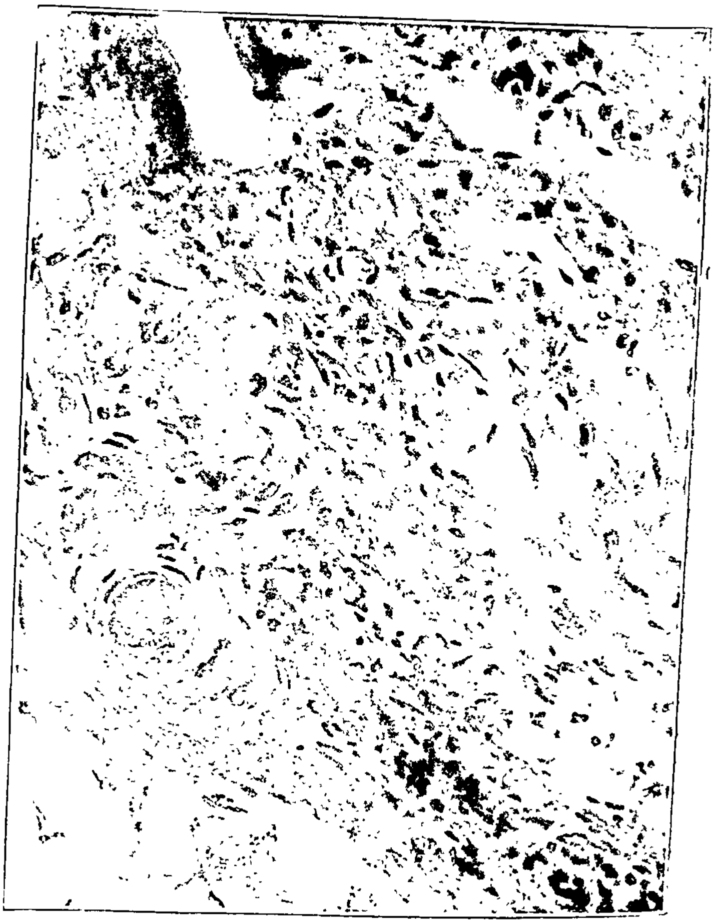

Fig. 5.—Another view. (350 ×)

quently wrong and misleading. I had started to revise the work on the ossification centers when unfortunately I got an *x*-ray dermatitis and since then have not been any nearer an *x*-ray machine than I could help. Now that Dr. Rotch has called general attention to this means of determining the physiologic age by the development of the bones, and particularly the ossification centers we may expect that other workers will take up the study and that in three or four years we shall have some standards that will be of great value.

Dr. T. M. Rotch, Boston: Physiologically, where there is a high physical development there is usually a correlation of brain activity. Of course, there may be occasionally an exception to this rule, but the brain is an organ just like other organs and must be judged of as are the other organs. I would have the physical condition of precocious children improved before advancing them at school. I would determine the condition of the bones and if there is a condition that needs treatment, I would treat it. I did not undertake, in connection with this work, to advise the use of any drug. About the relation of constitutional diseases to the development of the bones, you can very plainly make a differential diagnosis: for example, you can easily make the diagnosis between syphilis and tuberculosis or osteomyelitis by the Roentgen ray. By this means of studying the development of a child a standard is established that tells the truth. You must stop thinking in years and months and think of anatomic periods. The anatomic development is quite simple when anomalies are eliminated. If such a system for the determination of the child's development can be universally adopted, it is our duty as pediatric practitioners to develop and perfect it.

IDIOPATHIC MULTIPLE HEMORRHAGIC SARCOMA (KAPOSI).*

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CHICAGO.

Before reporting a new case and discussing the subject in question I wish to record the subsequent and final history of Case 1, contained in a paper read before the Fifty-third Annual Session of this Association,[1] as furnished me through the kindness of Dr. Charles Krusemarck, of this city, who saw the patient in the final stage of the disease. The patient was a German, aged 40, whose affection dated from the summer of 1896, when he bruised his left leg on stepping off a street car. He was under my observation from October, 1899, until July, 1902. In February, 1903, Dr. Krusemarck was called to see him. He was suffering intensely from pains in the limbs, lungs and liver. He appeared very emaciated, although the functions of the stomach and intestines were reported as being good. His temperature was irregularly above normal; pulse weak and frequent. The limbs, especially around and on the previously developed lesions, were covered with bullæ filled with clear yellow fluid. The limbs were swollen considerably and showed extensive thrombophlebitis. The liver was enlarged, with somewhat irregular surface, on which in some places softening could be felt. The physical examination as well as other lung symptoms permitted the diagnosis of abscesses. On the limbs the blebs gradually ruptured and the tissues within and around the previously sarcomatous areas of skin sloughed off. The cachexia increased to a considerable degree. Edema of the lungs set in and the patient succumbed in about two months. The gastrointestinal canal remained in good condition practically to the last. All these symptoms reasonably indicate that the thrombophlebitis, the affection of the liver and of the lungs were caused by metastases from the original cutaneous lesions.

The new case about to be considered is the third observed by the author. For the general history and examination I am indebted to Dr. Charles Spencer Williamson, who afforded me the opportunity of seeing the patient. His report is as follows:

History.—The patient was an American, aged 63, married, real estate dealer. His mother died at 76 and father at 86, from unknown causes. One sister and three brothers were living and well. He had had no infectious diseases other than those of childhood, except a hard chancre in 1869, and a mild attack of grip in 1891. He had been a moderate user of alcohol for many years and in the past year or two had drunk to excess. Had smoked "day and night" for many years and chewed heavily. Since 1891 he had had sharp sticking, lightning-like pains in the calves of the legs, lasting a few seconds only, recurring every few minutes, for a day or two. For the past four or five years he had suffered from very intense, girdle-like, stabbing pains in the epigastrium, of such severity as to take away his breath. For approximately two years past the ankles had become swollen towards evening, going down at night. For four years he had had intense attacks of "asthma." Epigastric tenderness during the asthmatic attacks had been marked. His eyesight was good. He had had some difficulty in walking at night for nearly ten years.

Examination.—Respirations, 20; pulse, full, with rather increased tension, 84 a minute, and at times intermittent. The character of the pulse was typical *pulsus celer*. A just perceptible capillary pulse in the finger-tips. The Duroziez symptom (a double murmur in the femoral artery) was well-marked. The gait was distinctly ataxic. The "joint sense" was impaired in both knees and ankles. He followed the outstretched finger with his foot fairly well. There was no ataxia in the arms. He had marked constipation and had had considerable difficulty in micturition for about two years. There was moderate edema of the ankles. He was much emaciated; the facies, bronzed by the sun, was pinched and drawn. The pupils about 2 mm. in width, and equal. A well-marked Argyll-Robertson pupil existed. The ocular movements were normal. Tongue was coated and dry and the teeth nearly all gone. Tonsils were normal. The thyroid was not palpable. The chest was poorly developed. Percussion showed a slight hyperresonance. By auscultation a slightly prolonged expiration, with an occasional sonorous râle could be detected. The apex of the heart was in the fifth intercostal space and behind the sixth rib. At the apex the first sound was normal; the second was followed by a long, soft, pure diastolic murmur, which could be heard of exactly the same timbre all over the precordium, but with its maximum of intensity in the fourth left interspace at the edge of the sternum. The second aortic sound was absent; its place was taken by the murmur. At the pulmonary and tricuspid areas the sounds were otherwise normal. There was diffuse general arteriosclerosis. The veins of the neck were normal. In the median line the liver could be distinctly felt just above the navel, the edge being hard and rounded, the notch plainly palpable, the surface smooth and hard. On pressure it was very tender, especially over the left lobe. The absolute hepatic flatness extended to the lower sixth rib in the nipple line. The kneejerk was absent. The Achilles-tendon reflex was very faint. The epigastric reflexes were normal on the left side; absent on the right. The Romberg symptom was well marked. Urinalysis was negative. Blood examination gave erythrocytes, 5,000,000; leucocytes, 8,000; hemoglobin, 61; differential count normal.

Diagnosis.—Tabes dorsalis; aortic insufficiency, medium grade, old, of arteriosclerotic origin, only partially compensated; moderate degree of venous congestion of the liver; slight emphysema.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

[1] Lieberthal: Sarcomatosis Cutis, The Journal A. M. A., Dec. 6, 1902.

History of Cutaneous Affection.—In 1891, on the back of the right hand, appeared a red swollen spot, of the size of a quarter, which gradually spread all over the hand and fingers (Fig. 1). Five or six years later similar spots occurred on the right, and soon after on the left thigh. About three years later the feet became the seat of spots and lumps, some of which turned hard and scaly. The latest spots he noticed about 1904, on the back of the left hand, which appeared like a duplicate of the changed right hand. There was at no time any burning, itching or other pain felt. The examination of his skin and mucous membranes was made in June, 1905, soon after Dr. Williamson had seen him. The dorsa of the hands in their entirety showed diffuse swelling, with gradually sloping margins, which had rather sharp outlines. Here and there distinct nodulations were noticed near the margin. On pressure the color paled somewhat. The skin over the swollen part was not movable, nor did it pit on pressure. The fingers, except the thumbs and the little finger of the right hand, appeared clumsy and broadened, and showed on their dorsa the same characteristics as the dorsa of the hands. On the radial side of the first phalanx of the right fourth finger was a dense flat nodule of pea-size. It was bluish-red and painful on pressure. On the thenar eminence of the right thumb were two nodules of the same appearance and size. On the anterior aspect of the right thigh were two plaques, a short distance from each other. First, an upper oval one about two by three inches, with irregular outlines. Its central part showed yellowish-brown atrophied skin, while the periphery was composed of flat nodular formations of a bluish-red color, which were united by slightly elevated skin of the same color. This peripheral band was moderately firm and turned paler on pressure. It was movable over the subcutaneous tissue. Here and there, but separated by normal skin, were solitary bluish nodules. The second plaque, situated about two and a half inches below the other, was about the size of a dollar, and triangular, with irregular outlines. It was diffusely bluish-red, beset with numerous bluish to brown flat and hemispherical elevations. On the lateral aspect of the same thigh was a plaque of the size of a dollar, corresponding in its details to the upper anterior one, and a similar disc about the size of a half-dollar, with atrophic center, over the anterior aspect of the left thigh. The dorsa of the feet presented the same appearance in swelling and discoloration as the dorsa of the hands, yet the swelling was not as intensive, but far harder to the touch. There was slight desquamation present, but the scales were firmly adherent. The toes were broadened and the interdigital folds covered with bluish-like horny outgrowths. The skin all over the dorsa of the feet and toes was immovable. Around both internal malleoli were groups of pinhead to bean-sized nodules, and nodes of red and bluish color of varying degrees of firmness. About the median line at the junction of the hard and soft palates were three-pinhead-sized nodules, bluish in color and perceptibly firmer to the touch than the surrounding mucosa. There was no enlargement of lymphatic glands. In consideration of his other ailments, it was decided to defer the treatment of the cutaneous affection. About two months after the first examination the patient went east, where he died a year later.

Histologic Examination.—A piece of tissue for microscopic examination was excised from the marginal part of the upper plaque of the right thigh. The epidermis as a whole is thinner than normal, the horny layer somewhat thickened. The interpapillary projections and papillæ are mostly obliterated. The corium is thickened and shows a large number of cavities, which are lined with endothelium. Partly, they represent considerably dilated preformed, but to a greater extent, newly developed blood and lymph vessels. Between these are encounterd accumulations of small spindle cells, which are arranged either in bundle or streak-like formations, or in irregular cell masses. Some of these streaks are situated parallel to the walls of blood vessels. In some places, where the cells are few in number, they are in close proximity to the vessel walls, clearly indicating their origin.

Numerous blood vessels, especially in the peripheral parts of the nodule, show considerable thickening of their walls; others, mostly so in the central portions, are torn. The connective tissue of the corium is coarse and abundant except in some places, where the cells are massed, in which case it is rather scanty. The elastic tissue is either scanty and distorted or it is totally absent within the heaps of cells. Otherwise it is normal. Another feature is the hemorrhages. Some of the cavities above mentioned are densely filled with blood. On the other hand, in some places the blood may be seen to extend through the ruptured blood vessels into the surounding tissue. Large masses of shining yellow pigment may be seen between and within the cells. Thus may be explained the numerous hemorrhages encountered throughout the sections, especially in the deeper strata. Hair follicles, sebaceous and sudoriferous glands were scarcely found in the sections.

The disease begins on the feet and hands, in form of reddish-brown or bluish-red, rather firm, soft or spongy nodules, nodes or plaques, or diffuse swellings. By the development of discrete formations it advances along the legs and arms and gradually appears on the trunk, face and mucous membranes. Some of the tumors may undergo involution by atrophying in part or *in toto*, leaving pigmented depressions. Ulceration is rarely observed. The lesions, especially those on the extremities, are, as a rule, painful. In a number of cases horny growths develop on some of the original lesions on the feet. The structures beneath the skin are, as a rule, not involved, except as in the cases of Bernhardt,[2] Halle[3] and de Amicis,[4] in which underlying bones became sarcomatous.

The histology of the lesions corresponds to the findings of the case described. It seems that the number of cavities seen in the sections depends on the density of the lesions examined, the sections of a spongy lesion containing an abundance, although in a firmer lesion the cavities are also quite numerous.

Of over a hundred cases recorded in literature since Kaposi[5] first described the disease, only a small number have occurred in America, and in the majority of these the patients were of foreign birth. It seems to be a disease of individuals in the lower walks of life. The course of the disease is, as a rule, slow. After years of its gradual spread over the body, metastases develop in the internal organs, and marasmus and death ensue. In the case here reported death was not caused by the cutaneous affection, but was the result of tabes and arteriosclerosis. At no time did spongy tumors develop on the skin, but all the lesions were rather firm. How much this had to do with the favorable course of the cutaneous affection (fifteen years without complications), I am not in a position to say.

Regarding the treatment, it may be said that arsenic effects some results, but is, as a rule, not able to prevent the fatal termination. The same may be said of the *x*-ray. Although a comparatively large number of cases have been observed and studied, yet not all dermatologists, and still fewer pathologists, are willing to accept the view originally expressed by Kaposi that this process is of a sarcomatous nature. Serious objections were raised against such acceptance, because the lesions are capable of spontaneous involution. They are not sharply defined, but show a more irregular infiltration-like arrangement of their cells, apparently only pushing aside the preformed tissues, while the tumor of sarcoma proper is well circumscribed and grows by destroying the tissues in which it is situated.

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[2] Arch. f. Dermat., 1902, lxxiii.
[3] Arch. f. Dermat., 1904, lxxii.
[4] Congress in Rome, 1894.
[5] Arch. f. Dermat., 1872.

I wish to call the attention of those especially interested in the subject to the extensive posthumous article by Fano,[6] in which the views of important authors, as Virchow, Rindfleisch, Hansemann and others, are quoted about different phases of sarcoma, and which to a certain degree mitigate the sharp differences made between sarcoma proper and idiopathic multiple hemorrhagic sarcoma (Kaposi).

There is no cause known and none will probably be disclosed before the etiology of sarcoma in general has been ascertained. In a number of cases the patients were exposed to cold before the skin became affected. In one of my cases[1] the disease began after the patient had bruised his leg. In the case contained in this paper syphilitic infection took place twenty-two years previous to the development of cutaneous manifestations.

It would be preposterous to claim that either syphilis and tabes in the one, or trauma to the leg in the other case, or the exposure to cold in some cases was the cause of the skin affection. But it does not seem improbable that through some internal or external agent, as, for instance, the above-mentioned, the equilibrium of the tonus and resistance of the peripheral vascular system has suffered, and thus has been facilitated the development of the sarcomatous process from the vessel walls.

103 State Street.

THE TREATMENT OF STRICTURES OF THE NASAL DUCT WITH LEAD STYLES.*

H. MOULTON, B.S., M.D.
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The use of lead styles in the treatment of stricture of the nasal duct is not new. As early as 1867, Dr. John Green, of St. Louis, and, perhaps, others before him, pointed out the advantage of styles made of lead. But styles of this material, or any other, do not seem to have come into general use. Many text-books say nothing of styles. Some advocate gold or silver; a few mention lead; others condemn styles of any kind. My experience with lead styles during the past fifteen or sixteen years has been so favorable that it seems strange to me that they are not more generally used. It also seems justifiable to attempt to show why, when a style is to be used, lead may be entitled to preference.

I do not advocate the use of styles as a universal method of treatment of obstruction of the nasal duct. Many cases will yield to syringing, to syringing and probing, and to other methods; but there remain some cases in which even probing, faithfully carried out for a considerable time, in the most approved manner, fails to produce permanent results. Such cases are seen sometimes in chronic distension of the sac, with or without fistula, and even in simple stricture of the lower part of the duct without distension.

In such cases we are compelled to choose one of three procedures: (1) Leave the patient to his fate; (2) extirpate the sac; (3) adopt some means of permanent dilatation. In the old or feeble, in whom some operation on the globe is called for, and when time is an object, extirpation may be resorted to at once. But permanent dilatation has been so uniformly and happily successful in my hands, that it seems to me that it ought always to be employed first, when possible. Further, there are many patients who come from a distance, or who, for other reasons, find it impossible to submit to regular and frequent probings for the required length of time. To this class of patients some form of style is peculiarly applicable.

In selecting styles instead of canulas for permanent dilatation, one is influenced by the fact that experience has proved that canulas quickly become clogged with mucus and pus, becoming sources of infection, and at the same time, ceasing to act as drains. This can not be avoided, even by almost daily removal and cleansing, which process is even more irksome to both patient and surgeon than probing. Experience, on the other hand, proves that with a style properly inserted, secretions do not accumulate, the tears readily find their way along the sides of the style into the nose and the patient need not be seen oftener than once a month.

The reasons for preferring lead as the material out of which to make the styles are: (1) It is a pliable material; (2) it is easily cut, smoothed and adapted to each individual case by the surgeon himself; (3) it is comfortable to the patient; (4) it is not acted on by the secretions; (5) it is cheap and easily obtained. On the other hand the other materials available are all objectionable. Aluminum soon becomes corroded, silver also, in time. While this objection does not apply to gold, yet gold is expensive and hard to adjust on account of its rigidity.

I have found that the best lead wire from which to make these styles is probably the fuse wire used by electricians. It contains a little antimony, which in no way impairs its usefulness, but rather enhances it, as it renders it slightly firmer. It is kept in various sizes, according to the amperage it is expected to carry. The best sizes for styles are those of the 5, 10 and 15 ampere capacity, about 1 mm., 1.50 mm. and 2 mm. in diameter respectively; or the wire may be compared directly with the lachrymal probe.

The proper preparation and placing of the styles are essential to success, and close attention must be paid to this important, if simple, technic. After the canaliculus has been cut and the duct dilated, at one sitting or several, to Bowman's No. 5, or even to No. 8, if possible, the depth of the duct is measured on the probe, and a piece of lead wire is cut to the corresponding length, taking off about one-eighth of an inch from the lower end to prevent it from resting on the floor of the nose and allowing from one-fourth to three-eighths of an inch extra length on the upper end to be bent over at a little more than a right angle to prevent its slipping down out of reach. The main shaft of the style should be curved to fit the canal, as determined by the bend of the probe which has been passed. The shoulder or upper end should have a curve slightly down and forward so that it will lie in the slit canaliculus, out of view and without tension. The tip of this upper end must not turn backward toward the eyeball. If it does it will cause trouble by touching the eyeball or by compressing the tissues of the eyelid between it and the eyeball. There should be no tension. If the end sticks up a little, it may be bent down without withdrawing the style.

The style will partly adapt itself to the canal owing to its flexibility, but if the fit is not good, it must be withdrawn, remolded and reinserted till it occupies the proper position without tension. The size of the wire should be the size of, or slightly smaller than the largest probe which has previously been inserted. Before inserting the style, its ends may be smoothed with a fine file or a piece of hard wood. If too long it may be shortened and resmoothed; if too short a new one may readily be made. The making and inserting of the style after the duct is prepared and cocainized need not consume more than five or ten minutes.

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[6] Arch. f. Dermat., 1907, lxxxiii.

* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

After the first few hours, the patient will not be conscious of its presence. It may be worn almost indefinitely, unfelt and unseen. It is a good plan to feel for the lower end of the style with a probe passed along the under edge of the lower turbinate. It is a protection against the use of too short a style. The best instrument to use in inserting and withdrawing the style is a pair of dressing forceps or iris forceps without teeth or sharp edges. The insertion may often be accomplished with fingers alone.

It is best to see these patients once every three or four weeks to remove and replace the styles and to see that all is well. I have frequently allowed the style to remain for a month or longer without removal; in one case for six months and fourteen days. This happened in the case of a school teacher who went away in June. 1907. for her vacation and did not return when expected. However, the condition was good when she did return. late in December. There had been no irritation, the tear passage was clean and the style was neither corroded nor incrusted. So far. the case promises to remain a permanent cure of a very chronic dacryocystitis with acute exacerbations. From choice. I would not leave a style in place so long; but this case shows how harmless the procedure may be during the time which a style is being worn. In every case there is perfect drainage of tears and never any inflammation; hence patients find it agreeable.

The cure may be effected in some cases in a month, in others a much longer time will be required. In one case. that of a woman of 35, I was forced to continue its use for a year and a half, before finally and permanently removing it. In this case the cessation of all treatment was in September. 1900. During seven and a half years since then. I have frequently seen the patient. There is an open duct. no epiphora, and no distension of the sac. This was an especially difficult case. It had lasted for many years. with much secretion and great distension of the sac. and the stricture was almost impervious. Probing had been tried for several months before resorting to the style.

On June 1. 1906. I inserted a lead style into a nasal duct which I had been probing with only temporary improvement for six months. On July 1, 1906, I removed the style which had thus been in the duct one month. Now two years have passed without a relapse. As a rule. after a style has been worn a month or two. I leave it out for a week. Then. if syringing is in any way difficult. I reinsert it for another month. The very old cases of very tight strictures require the longer time.

In no case is appropriate nasal, or other treatment that may be called for to be neglected. I could report many more cases but hope I have said enough to induce every ophthalmologist to try a method which. in my hands. has been uniformly successful.

ABSTRACT OF DISCUSSION.

Dr. William E. Gamble, Chicago: My experience with the canula has been very unsatisfactory. The drainage is not thereby materially improved. on account of the filling up of the lumen by the discharge. which is not lessened. Granulation tissue sometimes springs up, and. after removal of the canula. contraction occurs in the duct. which makes the stricture worse than before. This reaction of the tissues to the presence of a foreign body. especially when it is exposed to the atmospheric air. and. therefore, subject to reinfection. as in the lachrymal sac. has caused me to take the position that use of styles and canulas is unsurgical in principle. However, Dr. Moulton's very satisfactory experience in the use of his fuse lead wire should recall to our attention its probable value. If a wider experience shall corroborate his statement, that it drains the sac better than the canula. his paper will have done service. It appears to me that the style would have a limited use. I would use it in the rare chronic cases of young children in which it is very difficult to pass the probe without general anesthesia, and of other persons who would not consent to it. I scarcely agree with Dr. Moulton's proposition that in all cases the style should be used before extirpation of the sac is performed. for the reason that often the disease is one of the sac *per se*, the sac being a pyogenic membrane and nothing but its complete removal will effect a cure. The greatest advance in recent years in solving this problem is the development of the technic of extirpation of the sac. In my judgment it should be done much more often than it is.

Dr. E. E. Holt, Portland. Maine: I have been using the lead style for thirty-two years. I think. that as Dr. Moulton says in his excellent paper, it is surprising that a remedy so valuable in the treatment of a certain class of these cases is so little referred to in the literature of ophthalmology. It has been my custom to use the larger sizes of wire and to treat the cases very much as recommended by Theobald. dilating the canal with a large probe and selecting a wire a little smaller than the probe used. Dr. Moulton says that he does not like to have the style rest on the floor of the nose. I think that I have aimed to have it rest there so that it would not work down out of the nasal duct. I have never had any serious accident with the style. but my assistant had one, (which I think was too short). slip down the windpipe and lodge at the bifurcation. With the aid of the fluoroscope he located it there and. as the man was sitting in a dental chair. he quickly tipped the chair up so that the head was well down: the man gave a cough and out went the style on the floor.

Dr. Walter L. Pyle, Philadelphia: I believe that the use of the lead style was first suggested by Dr. John Green of St. Louis. It has been used in the Wills Eye Hospital for many years. The question of getting rid of the pyogenic membrane is an urgent one. Many ophthalmologists believe that the only way is to extirpate the sac, and that operation is becoming more and more popular. Meller of Vienna has so simplified it that it is now done practically without hemorrhage. Of course. it is a formidable operation, and its strongest advocate can not lose sight of the fact that it is appalling to the patient. However, when once the proper technic is mastered. the operation is performed without difficulty. As a method of lachrymal treatment. Dr. P. N. K. Schwenk of Philadelphia has had very satisfactory results from the injection of liquid vaselin. He says: "I have frequently applied this method in the treatment of decomposition in the lachrymal sac. After the acute stage of dacryocystitis has subsided, I dilate the punctum. canal. and duct in order to establish drainage into the nose; cleanse the sac with an antiseptic wash (boracic solution). and follow this with an injection of liquid vaselin. In quite chronic cases I do a slitting operation (modified Bowman) so as to establish free drainage into the nose. The vaselin is soothing to all the parts with which it comes in contact. and even penetrates the phlegmonous tissue, destroying any foci of bacteria. I have a number of such patients who feel grateful for the relief given them. and they seem more comfortable than those whose sacs have been sacrificed. The treatment is applied once or twice a week until relief is established."

Dr. W. C. Posey, Philadelphia: My experience with lead styles has been very favorable. Thus, in cases in which one would naturally resort to probing. that is. cases in which the mucous membrane of the sac and duct are healthy and there is merely a stricture to be combated. it is my practice to give the patient a general anesthetic, to slit up the canaliculus and dilate the duct widely after Theobald's method, and then to keep the duct patulous by the insertion of the style. The pain of repeated probings is thereby avoided, and I believe that the results of treatment are more lasting. The patient suffers but little inconvenience from the style and no disfigurement. If the mucous membrane of the sac or duct is diseased and the seat of virulent bacteria, I prefer extirpation of the sac to any other procedure.

Styles have rendered me excellent service in the treatment of acute dacryocystitis. After a general anesthetic has been administered, the sac is incised through the canaliculus by Bowman's method, and after dilatation of the duct with a rapid dilator or by probing, a style is inserted into the duct. Healing has always been rapid and uncomplicated. This procedure is superior to the usual external incision into the sac, inasmuch as it obviates the necessity for the subsequent division of the stricture by probing. Dr. Moulton's technic is, in general terms, the one which I have usually employed, though I do not make a practice of removing the style for cleansing purposes, but leave it in place for weeks and months.

Dr. F. C. Todd, Minneapolis: The method is of great value. I have been using methods similar to this, with canulas for the past ten years, and my experience has been quite extensive—almost indeed to the exclusion of probing. Dr. Moulton speaks of having one case in which the style remained in place six months; I have a patient who is wearing a gold canula that he has worn now for eight years and he will not let me take it out. He keeps it clean by closing the nostrils and drawing the secretion down by inspiration. The use of this method of treatment undoubtedly obviates in many cases the necessity for extirpation of the sac, though of course it does not do away with it, nor does Dr. Moulton assert that it does. I do believe, however, that the gold canula can be used with more relief to the patient because of better drainage, if properly fitted and if the patient can keep it clean without the use of a syringe.

Dr. S. L. Ziegler, Philadelphia: Lead styles are indicated chiefly in cases of dacryocystitis, stricture of the duct and caries of the lachrymal bones. The lead style is not usually kept in the duct as long as some of the speakers have stated, because there is some tendency to the growth of granulations. Otherwise the style is very efficient. I have made certain modifications in the lead style. Pure lead wire is somewhat soft, and while being introduced into the duct it may bend on itself. By the addition of a small amount of tin alloy the wire is so strengthened that it can be passed very easily and still have the necessary flexibility. I have still further modified this by having the wire drawn with a small groove, which I think facilitates drainage. The size of the style generally used is a No. 8. I usually precede its use by introducing my rapid dilator. There is a little trick in removing the style. It sometimes slides down, the tissues grow over it, and there is difficulty in getting hold of it. If you will use the small Meyhoffer chalazion curette with teeth, you can slip this under the style and get it out easily.

Dr. Albert E. Bulson, Jr., Fort Wayne, Ind.: I have used the fuse wire with great satisfaction, and for several years have been partial to the use of solid styles in the treatment of all of my cases of lachrymal obstruction. I even use the lead styles in the treatment of acute as well as chronic dacryocystitis, with the result of saving my patients from the needless suffering caused by probing, while at the same time bringing about permanent drainage. I have not found it necessary to remove the style often, and after the preliminary opening of the duct and insertion of the style I frequently tell my patients to return in the course of three to six weeks, the interval depending largely on their convenience as well as on the condition of the eye. I now have a patient who has worn a solid lead style for five months without removal, and she has recently reported that she experiences no trouble from it. The styles may be permanently removed in from six months to one year as a rule, but it is better to have the patient wear the style a little longer than necessary than to remove it too early and find it necessary later to reinsert it. A point to be remembered is that the style should be perfectly smooth everywhere. Care should be exercised in bending the fuse wire so as to avoid making indentations and rough places, which are very easily produced, owing to the softness of the metal. The bending should be done with the fingers and not with instruments. I usually do the bending after I have measured the length on the straight fuse wire inserted, the end resting on the floor of the nose. This does away with the possibility of getting the style too short. I think that the style should always go down close to the floor of the nose. In adults I seldom use anything but the largest fuse wire, which is about the size of an ordinary No. 6 Bowman probe. The removal of the style is best accomplished by the use of the ordinary small ring curette, which will slip over the end of the shoulder of the style, and by means of which the style may be easily withdrawn. It is surprising how well the tears will drain into the nose, even while the style is worn, and the avoidance of the painful probing is a distinct advantage in favor of the plan of treatment outlined by Dr. Moulton.

Dr. H. Moulton, Fort Smith, Ark.: Please do not condemn styles because you have had bad experience with canulas. A canula will not drain these passages, whereas a lead style or any wire will. A canula may do it in some instances. Dr. Todd speaks of his patient as being comfortable, but you notice he has to cleanse the passage; if a style were used that would not be necessary. The canula needs about as much attention as the duct does when you are using probes. When secretion decomposes granulations are started up. The style is cleanly; the tears and secretions will go down. If you use it in cases where there is a distended sac the tears and mucus will go down and the distention will disappear. I do not use the larger sized wires; I use one about equal to a No. 5 or 6 Bowman. The lead wire should be a little smaller than the largest probe you have used.

THE QUANTITY AND QUALITY OF BREAST-MILK DURING THE FIRST TWO WEEKS OF THE PUERPERIUM.*

EFFA V. DAVIS, M.D.
CHICAGO.

The study of the newborn child during its first month of life is properly a part of the obstetrician's duties, as the relationships of mother and child are so interdependent at that period that neither can be regarded apart from the other with wisdom or safety.

It is a gravely important epoch in the infant's life, covering as it does new processes for advance toward an independent existence when the mother will be no longer a source of direct nutrition.

The elaboration of the blood through direct oxidation by way of the respiratory tract, and the digestion of breast milk through the alimentary tract, are radical and abrupt changes which check the growth for a few days in most instances and in many cases for a much longer time. The duration of this check varies according to the promptness and thoroughness with which the new natural processes are accomplished by the child. It also depends on the purity and quantity of the two elements required for these new offices, namely, pure fresh air and good breast-milk.

The cases for this report have been collected through hospital service entirely, and have each been under observation about two weeks, as most of the patients leave the hospital at the end of the fourteenth day.

The following rules have been observed in the care of the patients reported:

The infants are applied to the mother's breast shortly after birth, within the first six hours usually, and every six hours afterward for the first day, every four hours on the second, and every three hours on the third day. Thereafter the time interval is determined largely by the quantity of milk obtained and the condition of the mother's breasts.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

When there is an abundance of milk and the breasts become turgid and painful the child is urged to nurse every two hours for the mother's sake until the breasts are relieved, and for the child's sake if there has been a large initial loss in weight and it seems restless from hunger.

It is noticed that, after a long initial delay of the breast-milk, of two entire days or longer, for instance, the infant will have a lively appetite and cry noisily if not applied as often as every two hours during a portion of the day, but, after getting a reasonably good quantity for a day or so, will then be contented to remain away from the mother longer, and indeed will sleep instead of suck when offered a meal.

After the first three or four days the hours for placing the child at the breast are as follows: During the day 7, 9, 11, 1, 3, 5 and 7. During the night 10, 1 and 4. As soon as the child inclines to sleep quietly the 1 o'clock night feeding is omitted and the hours changed to 2 and 5, which gives nine feedings in twenty-four hours; and later the daily feedings are reduced to five or six, which makes seven or eight feedings in twenty-four hours, with an interval of three to three and one-half hours.

It has been found that most normal infants obtaining a reasonable amount of milk will of themselves take one long uninterrupted sleep during each twenty-four hours. The nurse seeks to train the child to take that nap at night, as this arrangement gives the mother a better chance to receive her proper rest, which is important for the best flow of milk. The child is awakened at regular intervals during the day, but permitted to sleep as long as it will at night, being only awakened so as to start the day at a convenient hour that the nursing interval may not interfere with the mother's regular meals, which are served at regular hours. For her own sake she should always be regular, never being served at the period when she must nurse her child, as it is as important for the mother to be regular in her habits as for the child. Simple as this point is, many nurses and mothers neglect to observe it.

On the infant's record sheet the nurse records the birth weight and every third day its gross weight, with the hours of nursing and the gain in weight after each application to the breast. The child is carefully weighed just before each nursing and again after completing the meal. The difference in these weights represents the amount of milk obtained at each breast feeding. These weights are footed up at the end of the day. A correct idea can thus be had of the quantity of food received in twenty-four hours, and the management of the feeding may be judged on a much more accurate basis. The rules may be varied, according to conditions which arise in the mother, such as sore nipples, scanty or tardy secretion of milk, an overabundance of milk or turgescence of the breasts, which leaves the mother restless and uncomfortable. The infant, on the other hand, may lack the ordinary instinct to suck and need coaxing and teaching, or may suffer from some illness. It may vomit after a greedy meal when given the breast after too long an interval, or have loose green stools when placed too frequently to the breast and overfed. All these things and many more must be considered in the individual case when making up a schedule of meals. In fact, the first two weeks is largely an experimental interval in which the child must be studied expectantly and a routine treatment applied only in the cases in which it seems to be indicated.

Nurses can be trained to observe many little details. They soon become interested in their charges in a way not dreamed of where no record is kept and "guesswork" prevails, instead of an array of facts on which they can base their conclusions.

The diet of the lying-in woman has much to do with the prompt and healthy flow of breast milk. The cases recorded here are treated as follows:

Two quarts of fluids (milk, soup, gruel, cereal coffee and cocoa) are given daily the first three days and during the entire puerperium, if the breasts are not uncomfortable, together with bread, toast, cooked cereals, bacon and eggs, potatoes and other vegetables in season. Light desserts, made from corn-starch, gelatin, tapioca, etc., with stewed fruit, such as apples, prunes, apricots, etc. A cathartic is used on the second day and after a thorough bowel evacuation, meat in small quantities is served once daily. A moderate amount of solid food with an excess of fluids is given, with the aim of keeping a moderate amount of proteid in the diet. As the mothers are inactive and require but little of that element for their own economy, an excess would result in a concentrated milk product, likely to produce digestive disturbances in the child.

One hundred case histories have been collected in this report. They have been taken from the hospital records as they occurred in the routine of work, and have not been selected. The only cases omitted have been in instances where the records, owing to some error on the part of the attendant, have not been complete. The weighing was done on a balance scale with an avoirdupois system of weights, and does not regard any measurement less than one-fourth ounce.

The number of cases reported is 100. The nativity of the mothers is as follows: Fifty-five, American: 21, German-American; 3, Scandinavian; 2, English-American; 2, Polish; 1, Welsh; 1, French-American; 1, Dutch; 1, Scotch; 1, Bohemian; 1, Icelandic. Of these mothers there were 30 multiparæ and 70 primiparæ.

The mammary glands were recorded as well developed in 63 patients; moderately developed in 26; poorly developed in 10; and unobserved in 1.

A markedly insufficient milk supply was noticed in 15 cases. This was due in 10 cases to poorly developed breasts; in 2 cases to sore nipples; in 2 cases to poor efforts toward sucking on the part of the child; and in one case was thought to be due to a reluctance on the part of the mother to give herself to the duty.

Of the 100 infants, more than 60 regained by the end of their second week the weight lost after birth, while 40 did not regain the weight lost or remained the same as at birth when discharged. The loss of weight varied greatly in the first four days of life, due at times to the tardy response of the breasts of the mother, and at other times to the seeming weak capacity of the child to obtain and digest its food.

The first appreciable supply of milk was received in 24 cases on the first day of life; in 41 on the second; in 31 on the third; and in 4 cases on the fourth day. All of these babies were receiving breast-milk on the fourth day, showing that it is rare indeed not to have something for the child by that stage of the puerperium.

though in a few cases it did not come to the infant in anything like the normal quantity until the fifth or sixth day.

The average quantity received on the first day was ⅔ ounce; on the second, 1¼ ounces; on the third, 1⅞ ounces; on the fourth, 5 ounces; and on the seventh day, 13 ounces.

According to their weights, the infants were divided into three classes. The first included those under the average or weighing 5½ pounds or less; the second, of those weighing 6 to 7½ pounds, or as much as an average child; and the third, of those weighing over 7½ pounds, or over the average. The smallest weighed 4 pounds 15 ounces; the largest weighed 10 pounds 12 ounces. There were 8 that weighed 5½ pounds, or less; 54, from 6 to 7½ pounds, and 38 from 7½ to 11 pounds. A detailed table of these cases is given at the close of the report.

In recording these histories it was noticed that invariably when the infant received an unusual amount of milk for two or three days, the number of feedings in twenty-four hours was lessened, because the child naturally declined to be fed, going into a sound sleep and refusing to be aroused at the shorter nursing period, thus checking overfeeding by Nature's method. After the amount of breast-milk began to reach two ounces at each nursing, a three-hour interval was found to be about right for the comfort of the child and when an occasional three-ounce meal was taken an interval of three and one-half hours and even four hours at night was satisfactory in the second week.

The system of weighing is invaluable at this period of the child's life to determine what amount is satisfactory. The trouble of weighing the child is soon overlooked by the nurse in the interest provoked by the knowledge gained, both mother and nurse feeling that they have one more item of help in the interpretation of the child's natural needs.

It is evident from this series that an average infant requires from 14 to 18 ounces of breast-milk daily to make satisfactory progress, though some will gain on less. Many vigorous babies above the average in weight can take care of 20 or more ounces in twenty-four hours to advantage.

In the fifty infants observed, who were of average weight, only two, or 4 per cent., obtained as large a quantity as 20 ounces in twenty-four hours, while in the thirty-eight infants that weighed above the average there were five, or 13 per cent., that took twenty ounces and over and did well.

The breast-milk was analyzed in eight cases to test the quality of the secretion on the fourth day of the puerperium. Five of these cases were again examined on the fourteenth day.

Through the courtesy of Dr. Ralph Webster, I am able to submit tables with averages:

TABLE OF BREAST FEEDINGS AFTER THE FIFTH DAY IN INFANTS WEIGHING 5½ POUNDS AND UNDER.

No.	Av. oz. milk daily.	Feedings daily.	Av. interval, hours.	Av. oz. at one meal.	Initial loss of weight, oz.	Total gain, oz.	Birth weight. lbs. oz
1	11	8-9	2½-3	1½	6¼	10¾	5: 1
2	14½	9	2-3	2	1¼	6¼	5: 7
3	12	9	2-3	1⅓	7¾	7¾	5: 7
4*	8½	7	3½	1¼	1½	2	5: 6
5	12½	8	3	1½	5½	9	5: 7
6*	7⅛	7-8	2½-3	1+	6¼	3	4:15
7	12	7	3½	1 5/7	2	4	5:
8	9	7-8	2½-3	1⅛	3	3	5: 6
Average: 10¾							

* Poorly developed breasts in mother.

TABLE OF BREAST FEEDINGS AFTER FIFTH DAY IN INFANTS WEIGHING FROM 6 TO 7½ POUNDS.

No.	Av. oz. milk daily.	Feedings daily.	Av. interval. hours.	Av. oz. at one meal.	Initial loss of weight, oz.	Total gain, oz.	Birth weight. lbs. oz.
1	13⅓	9	2½	1½	5	9½	6: 4½
2	15½	9-10	2-3	1 2/3	1	7	7:
3	16	9-10	2-3	1 2/5	1¾	5¾	6: 5
4*	14⅔	8	3	1⅔	10	0	7: 2
5	11⅓	8	3	1⅓	3¼	5½	6: 9½
6*	10⅓	8	3	1⅓	16	0	6:12
7	9 1/5	8	3	1 1/7	5	12	6: 8¾
8	12	8	3	1½	11	16	7: 5½
9	8⅔	8	3	1 1/12	5	9	6: 7
10‡	7⅔	7	3½	1 1/10	11½	0	7: 7¼
11	15⅔	8-9	2-3	1¾	1¾	10	6:11¼
12‡	5¾	8	3	¾	1½	4¾	6:15½
13	17	9	2½	2	5¼	9	7: 4
14	9	8-9	2½-3	1	9	17	7: 5¾
15§	16	10	2-3	1 2/5	5¼	13	7: 6¾
16	12½	8	3	1⅓	2	2¾	6: 6
17	14⅓	7	3½	2 1/5	1½	4½	7: 5
18†	8	8-9	2½-3	1	½	¼	6: 6½
19	12¼	8-9	2½-3	1½	5¾	4	6: 7¾
20	15	8-9	2½-3	2	11	12¼	6:13
21	10½	8-9	3-3½	1½	10	2½	7: 8
22	11+	8	3	1½	1¼	12	6: 6½
23	22¼	9-10	2-2½	2½	¾	13	6: 2½
24	11+	7	3½	1¾	7	6	6:11
25	14⅓	6	4	2⅓	1	7	6: 9
26	21	7	3½	3	1	1¼	7: 4
27	18	7	3½	2½	2	1	6: 3
28†	7+	7	3½	1+	2¾	5½	6: 1½
29	13	7-8	3-3½	2	9½	5¾	7: 7
30	15	8-9	2½-3	1¾	6¾	16½	7: ¾
31	12⅔	9	2½	1½	7½	10¾	6: 9
32	19 1/6	7-8	3-3½	2½	?	9	7: 4
33	10	7	3½	1 7/10	?	6	6:10
34	15 1/5	7	3½	2 1/6	9¼	12¼	7: 6
35	9½	7	3½	1⅓	8/12	2	6:14½
36	22¼	9-10	2-3	2 1/5	1½	14	6:10
37	19 1/5	8	3	2+	?	16¼	7: ¾
38	11	7	3½	1 4/7	5	1¾	7: 5
39	16 2/3	7-8	3-3½	2	1⅓	1	7: 3
40	10¾	7-8	3-3½	1¼	?	6	6: 8
41	12⅔	7	3½	1½	5¼	9¾	7: 3
42	16	9	2½	1 1/9	1	4	7: 1
43	13⅓	9	2½	1½	6¾	16¾	7: 4
44	17⅓	8-9	2½-3	2⅓	1	8	7: ¾
45	14	7	3½	2	4½	9	6: 8½
46	13	7	3½	2	2	4½	7:
47	15½	7	3½	2 1/6	2½	3½	6: 5½
48	11⅓	7	3½	1½	3	5	6:10
49	16½	9-10	2	1 5/6	1	6¼	6:10
50	19½	9-10	2-3	2	8¾	8	6 11¾
51‖	....	...	...	...	...	...	7:
52	....	...	...	...	...	...	7: 7
53	....	...	...	...	3½	...	7: 6½
54•	....	...	...	...	...	...	6:12½

* Consanguinity of parents. § Green stools 7th day; overfed.
† Mother reluctant to nurse. ‖ Left hospital on 7th day.
‡ Poorly developed breasts in mother.
• Infant would not suck for eight days.

TABLE OF BREAST FEEDINGS AFTER FIFTH DAY IN INFANTS WEIGHING 7½ POUNDS AND OVER.

No.	Av. oz milk daily.	Feedings daily.	Av. interval, hours.	Av. oz. at one meal.	Initial loss of weight, oz.	Total gain, oz.	Birth weight. lbs. oz.
1	20+	9-10	2-3	2	...	16	9:
2	16	9-10	2-3	1 6/7	9	11	8:14
3*	7⅛	8	3	1	16½	0	10:12½
4*	13	7-8	3-3½	1½	¾	¾	9:
5	16	8-9	2½-3	2	4	12	8: 6½
6	22½	8-9	2½-3	2⅓	3¼	8	7: 8¼
7	14	8	3	1¾	7¼	10	8: 2
8	15	9-10	2-3	1⅔	7¼	13¼	8: 5
9	15⅔	7	3½	1 1/5	...	7½	8: 2½
10	9	6-7	3½-4	1⅓	9½	10	7:14½
11	16+	6-7	3½-4	2⅔	1	2½	7:13
12	16⅓	9-10	2-3	1½	5¾	4¾	7:11
13†	10⅞	7	3½	1½	11½	0	7:14
14	19	9	2½	2 1/9	13¼	10½	9: 3¼
15	23 4/9	8	3	3	3	6	8:12½
16*	8+	6	4	1⅓	1½	1	8:10
17	14+	9	2-3	1⅔	10¼	4¾	7:13
18‡	8½+	8	3	1+	15	1¾	8: 7¾
19	11	7	3½	1½	10½	2½	8:15
20	17	7	3½	2⅓	3¾	9	7:12
21	21½	8	3	2½	2	11½	9: 4
22	11+	7	3½	1½	8	0	8: 3
23‡	8½	7	3½	1 1/5	7½	5¼	7:11½
24	15⅔	7-8	3-3½	2	9½	7½	8: 2
25	12½	8	3	1½	4	6	7:12
26	15½	8	3	2	4½	6½	8: 4
27	14¼	6	4	2½	5¼	3¼	8:
28	21	8	3	2½	1¾	8	8:10¼
29	11 2/5	9	2½	1¾	6	0	7:10½
30	16¼	7-8	3-3½	2½	0	10½	8: 5½
31	15 3-5	8	3	2	6½	6½	7:12½
32	16⅓	9	2½	1¾	9½	12	8:10
33	16¾	8-9	2½-3	2	8	3	8: 4
34	18	10	2-3	1¾	9	3	8: ½
35§	8½	7-8	3-3½	1 1/5	12½	3	7:15½
36	13	8	3	1½+	6¾	7¼	8:13
37	15¼	7	3½	2 1/5	5¼	7¼	8:
Average	15	7-9	2-4				

* Poorly developed breasts; scanty milk. † Sore nipples.
‡ Scanty milk. § Infant ill last three days.

six hours afterward for the first day, every four hours on the second, and every three hours on the third day. Thereafter the time interval is determined largely by *the quantity of milk obtained and the condition of the* mother's breasts.

When there is an abundance of milk and the breasts become turgid and painful the child is urged to nurse every two hours for the mother's sake until the breasts are relieved, and for the child's sake if there has been a large initial loss in weight and it seems restless from hunger.

It is noticed that, after a long initial delay of the breast-milk, of two entire days or longer, for instance, the infant will have a lively appetite and cry noisily if not applied as often as every two hours during a portion of the day, but, after getting a reasonably good quantity for a day or so, will then be contented to remain away from the mother longer, and indeed will sleep instead of suck when offered a meal.

After the first three or four days the hours for placing the child at the breast are as follows: During the day 7, 9, 11, 1, 3, 5 and 7. During the night 10, 1 and 4. As soon as the child inclines to sleep quietly the 1 o'clock night feeding is omitted and the hours changed to 2 and 5, which gives nine feedings in twenty-four hours; and later the daily feedings are reduced to five or six, which makes seven or eight feedings in twenty-four hours, with an interval of three to three and one-half hours.

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One hundred case histories have been collected in this report. They have been taken from the hospital records as they occurred in the routine of work, and have not been selected. The only cases omitted have been in instances where the records, owing to some error on the part of the attendant, have not been complete. The weighing was done on a balance scale with an avoirdupois system of weights, and does not regard any measurement less than one-fourth ounce.

The number of cases reported is 100. The nativity of the mothers is as follows: Fifty-five, American; 21, German-American; 3, Scandinavian; 2, English-American; 2, Polish; 1, Welsh; 1, French-American; 1, Dutch; 1, Scotch; 1, Bohemian; 1, Icelandic. Of these mothers there were 30 multiparæ and 70 primiparæ.

The mammary glands were recorded as well developed in 63 patients; moderately developed in 26; poorly developed in 10; and unobserved in 1.

A markedly insufficient milk supply was noticed in 15 cases. This was due in 10 cases to poorly developed breasts; in 2 cases to sore nipples; in 2 cases to poor efforts toward sucking on the part of the child; and in one case was thought to be due to a reluctance on the part of the mother to give herself to the duty.

Of the 100 infants, more than 60 regained by the end of their second week the weight lost after birth, while 40 did not regain the weight lost or remained the same as at birth when discharged. The loss of weight varied greatly in the first four days of life, due at times to the tardy response of the breasts of the mother, and at other times to the seeming weak capacity of the child to obtain and digest its food.

The first appreciable supply of milk was received in 24 cases on the first day of life; in 41 on the second; in 31 on the third; and in 4 cases on the fourth day. All of these babies were receiving breast-milk *on the* fourth day, showing that it is rare indeed not to have something for the child by that stage of the puerperium.

same earnestness and thoroughness that we give to studies on other, though no doubt, less important subjects. Concerning breast milk problems in general, our investigations are often incomplete, sometimes crude, and not infrequently lead to conclusions little short of ridiculous.

A study of 1,000 mothers with relation to their ability to nurse is contained in a pediatric work recently published by a well-known and gifted American author. Illustrating this study there is in the book a table which shows that of 500 mothers, described only as very poor and living in tenements, 90 per cent. were able to nurse their babies for nine months, that of 500 other mothers described only as prosperous and living in healthy portions of the city but 17 per cent. were able to nurse for nine months.

This is indeed, a state of affairs so appalling that it ought to arouse medical men and statesmen throughout the length and breadth of this great country to an effort to ward off a calamity which will soon become national in scope. The remedy for this ill—our defense against this enthreatening danger—is obvious to any one who has contemplated the study referred to above.

In order that our babies may get the milk, which is, or ought to be, theirs by right of divine inheritance, we must, first of all, remove from her present surroundings every mother who is unfortunate enough to be prosperous and to be living in a healthy district, we must move her into an unhealthy and a crowded tenement house; we must take away from her the sunshine, the air, and the bathtub, and in order to make assurance doubly sure it were, perhaps, best that we starve her and induce her husband to come home drunk occasionally and to administer a beating to her! For the sake of the baby, we must not heed any protest that might arise from a mother, who is selfish and thoughtless enough to be living comfortably and decently.

I regard any such study as this one absolutely worthless if not dangerous. Were one not acquainted with the keener observations of this brilliant investigator one might easily conclude that the study had been conducted by an anarchistic, rather than a scientific mind. It is incomplete and superficial.

What no doubt could have been proved had this study been followed to a logical conclusion was that there are many mothers, who by virtue of racial endowment or by educated endurance to hardships are able to retain nervous equipoise in spite of adverse circumstances and are, therefore, able to nurse their babies and, on the other hand, that there are many mothers who having made extra extravagant expenditures of nerve energy, are unable to nurse their babies in spite certainly not because, of propitious circumstances.

The question of ability to secrete good milk is not one of class, but of individuals. To leave off where this author does indicates prejudice and bias, which are as unworthy a place in the medical mind as in the judicial mind.

To some of you it may appear that by this criticism I am "making much ado about nothing." I wish to point out that injudicious talk about the inability of the wealthy American mother to nurse not only leads to class hatred but is capable of other mischief besides.

These exaggerated and, as I believe, unfounded statements can not be concealed between covers of medical books. Sooner or later they creep into homes and there have a very unwholesome effect on mothers themselves who on the very first show of digestive disturbance in the nursling are filled with feelings of so panicky a nature that tact and persuasion are not always successful in allaying.

There are several reasons why I can not accept as true the assertion that there is among American mothers of any class whatsoever a decreasing ability to perform the nursing function. The first and most conclusive reason, to my mind, at least, is the fact that personal observations indicate rather the contrary. The very fact that tenement houses are being renovated or rebuilt so as to conform, in some degree, with the laws of health, and the very fact that good living is daily coming within the reach of a larger number of our people, ought to be regarded as things favorable to an increase in the number of women who are able to nurse successfully.

There was a time not so long ago when not a few physicians honestly believed that cow's milk, properly modified, could be made interchangeable with breast milk and that the infant could be raised equally well on either. The effect of this superstition, while it lasted, was a remarkable falling off in the percentage of nursing mothers. The inability to nurse was, of course, under the influence of medical smartness, often assumed, but in just as many cases was probably real.

Medical men to-day, however, are beginning to realize more and more that differences in milks are as wide as differences in species. No medical man is now willing to claim that he can by deft manipulation of cow's milk duplicate breast milk any more than he is willing to claim that he can, by clipping its tail and ears, so modify a calf that it can be substituted for a baby.

This change of position by the medical profession in relation to mother's milk has brought about a healthy reaction among mothers themselves. Encouraged and supported in the holding of wholesomer ideas of her importance to the child, the mother, almost without exception, will now lend her earnest and utmost cooperation to efforts at overcoming any difficulty arising to interfere with the nursing of the baby.

Certain privileges formerly regarded as unwomanly or at least beyond the pale of good taste, are now enjoyed by girls and young women without question. The various outdoor amusements, recreations and sports pursued by the average modern girl have, on the whole, proved very beneficial to her health. Since her advent into "God's out of doors" the young woman of to-day is not nearly so often anemic and hysterical. Reflecting the popular conception the heroine in the novel of yesterday was pictured as crying or fainting on occasions so numerous and on provocations so slight, that in real life to-day such a one would be regarded by her own sex as silly and weak. The mental, the physical and the nervous stability of our modern young woman are helping in a large measure to decrease the number of mothers unsuccessful at nursing.

In the southern Atlantic states a short while ago, a large number of women in the rural districts, whenever they became mothers were almost surely doomed to failure in the nursing of their babies. These mothers had undeveloped mammary glands, they were anemic and very often gave birth to undersized, marantic babies. The fate of these babies was all the more certain because they were born in localities in which intelligent direction of substitute feeding was in most cases unavailable. Since the discovery a few years ago that the vast majority of cases of anemia occurring in these rural districts and in cotton mill villages were due to infection with hookworm, a large number of people so infected have been treated and restored to health.

The economic considerations involved in this widespread disease have so impressed various medical and state authorities that we may expect to see at an early date a systematically directed movement against its eradication. Every girl and every mother, who is freed of this malady, adds by just so much to the prospective and to the actual nursing force of the country.

These facts, coupled with the fact that mothers are to-day better prepared and are better informed, seem sufficient to justify the taking of a rather optimistic view of the situation, and for believing that our women will be able to prove by any test their fitness for maternity. On the other hand, it can not be denied that *there are still in this country thousands of infants deprived*, for one reason or another, of breast milk. I sincerely believe that if we, individually and collectively, were to make an earnest effort to increase both the production and the saving of breast milk, we could reduce this number to a very considerable degree.

When any digestive disturbance in the nursling is reported to the physician it is his duty to be as painstaking and as diligent in his investigations as he is when the baby happens to be artificially fed. He must not only examine the child's actions and investigate the hygiene of the nursing act, but he should look into the life and the habits of the mother herself. Does she lead a sedentary life or is society—social entertainments and social dissipations—making inroads on her nervous system? Is she a slave to household drudgery, who is compelled to drink innumerable cups of tea, coffee or other stimulants in order to keep on her poor, tired feet? Is she constipated and anemic? Has she a decayed tooth or an ingrowing toe nail?

No detail should be regarded as too insignificant in this investigation. Whether it be pain, or work, or play, whatever is immoderate or intemperate in the life of a mother will be reflected in her milk, whether she indulges in a too exciting game of bridge or has merely engaged in a hair-pulling dispute with the lady on the next floor, the effect on the milk will be equally bad.

None of these things implies that mother's milk is thrown out of the normal more easily than cow's milk. All of them, however, may indicate that we protect and take care of our cows better than we do the mothers of our babies. I believe, moreover, that every day there is good breast milk going to waste, which, if it were but saved and directed toward hungry mouths, would be enough to give every starving baby in the land a square meal and a square deal!

I would not discourage or minimize the noble work now being done by noble men to create a supply of clean cow's milk. It is, perhaps, not without temerity that I suggest that there is something twisted in our arrangement of preventive medicine when we organize ourselves into milk commissions, the sole purpose of which is to overcome difficulties encountered in securing an ample supply of pure cow's milk, while we have no similarly organized body devoting its attention to the many perplexing problems of the human milk-supply.

So long as this condition lasts there is a possibility that our knowledge of the cow and of cow's milk will exceed our knowledge of the mother and of mother's milk—the possibility of our becoming better equipped as veterinarians than as physicians

Provided its organization could be effected, multiple duties would devolve on a body constituting itself a breast milk commission. Besides a deeper study into the physiology and the pathology of lactation and the influence effecting this function, such a commission might undertake to secure *reliable* statistics relating to the ability of mothers to nurse; to disseminate knowledge relating to the hygiene of nursing; to initiate a propaganda combating the many superstitions surrounding lactation. Such a commission could devise plans for creating a regulated and organized corps of wet nurses and might even make feasible the establishment of depots at which bottled breast milk could be sold. There is nothing in the last suggestion that I regard *bizarre* or impossible. With several marantic infants I have been able to demonstrate bottled breast milk as being both practical and beneficial.

FALLACIOUS STANDARDS EMPLOYED IN ARTIFICIAL INFANT FEEDING.*

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It will not be disputed, that before the science of artificial infant feeding can become an established fact, elementary principles must be worked out which every one can accept, not because they are supported by authorities, but because their correctness can be demonstrated. In other words, the principles must be able to stand alone.

All sciences have passed through a formative period, when what we now know are their basic principles were discussed and disputed. The attitude of some of the old scientists and physicians, as for instance, those who would never admit that the blood circulated, may seem strange in the light of present day knowledge. But to-day we are still in the formative period of the science of infant feeding, and there is danger of the present day physician falling into the same attitude, for there are a number of doctrines concerning infant feeding which are clearly erroneous, but which are stoutly maintained by many pediatricians. These doctrines must be recognized as wrong and be abandoned before satisfactory progress can be made. It is admirable not to be easily carried away, but it is equally commendable to abandon a belief that is wrong.

There is remarkable analogy between the pioneers in the subject of artificial infant feeding and the old alchemists. The alchemists were searching for the philosopher's stone that would change base metals into gold. While they did not find this stone, they made many discoveries that were used later on in laying the foundations of our wonderful modern chemistry. The early workers in scientific infant feeding sought to make an artificial human milk, and, like the alchemists, failed to attain their object. But they also made many discoveries, whose significance has not yet been fully realized, but which, when systematized and correlated, will eventually develop into the science of infant nutrition.

The alchemists had no conception of the change of form and properties the chemical elements may undergo when they form combinations, and made gross physical appearance their standard. For instance, they imagined that sulphur and gold were nearly alike because they had the same color.

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The early scientific infant feeders were similarly misled, and thought to make human milk from cow's milk by making it look and taste like human milk, and have the same reaction.

We now know that physical appearance is of little value as a standard in chemistry, and it is by their chemical and physiological properties, not their appearance, that the various substances used in infant feeding must be judged. As an illustration of how misleading judging by taste and appearance may be, we might take codliver oil and a palatable emulsion of codliver oil. Judging them by appearance and taste they are wholly unlike and would never be placed in the same class. Superficially they differ widely, essentially they are alike.

In the practice of infant feeding there are used many substances which differ greatly in form and appearance, but which are essentially the same; and certain terms are applied indiscriminately to widely differing substances. The result of this judging by appearances and using terms loosely has led to the establishment of some so-called standards which are clearly fallacious and which are not and can not be followed in practice, even by those who have advocated them.

It is the object of this paper to show wherein some of these standards are fallacious. By standard is meant the basis or principle on which practical feeding is supposed to be based. If the true principles on which practice is based are recognized, a great amount of progress will have been made.

STANDARDS.

Let us glance over a few of the standards that are employed.

It is an accepted standard that Nature should be followed. What is following Nature? Some say one thing and some another.

1. The simplest standard heard of is, give the infant milk. If its mother's milk fails, give it cow's milk, goat's milk, or ass's milk, but follow Nature and give milk.

2. The next advanced standard is, that all milks are composed of the same ingredients, but in different proportions, and changing the percentage composition will practically convert the milk of one kind of animal into that of another.

3. Another standard is that human milk is composed of fats, carbohydrates, proteids, mineral matter and water, and the infant's food should contain these ingredients in the same proportions.

4. A favorite standard has been that cow's milk was acid and human milk alkaline, and therefore 5 per cent. of lime water should be added to cow's milk to give it the same reaction.

5. A newer standard is that the difference between human milk and cow's milk is due to the fact that they contain casein or caseinogen and lactalbumin in different quantities and relative proportions, and that these relative proportions are definite for each milk.

6. It is a widely accepted standard that human milk is sterile and cow's milk contains bacteria and therefore the cow's milk should be sterilized or pasteurized before being given to infants.

7. Another standard is, that of gain in weight of the infant caused by a given food.

8. A recent standard is that the infant needs food that will produce a certain number of calories depending on the size of the infant.

It is not uncommon to meet with all of these standards in use at the present time. Any one engaged in postgraduate teaching knows this to be a fact. To those who have specialized in infant feeding it will not be necessary to say that the standard, give milk because the mother gives milk, is based on superficial observation and does not take into consideration the possibility of all milks not being alike. The standard that all milks are composed of the same ingredients, but in different proportions, has not been found to be correct, for after percentages have been readjusted, the original physical properties of the different milks remain unchanged. No one has yet transmuted cow's milk into human milk by changing its percentage composition.

The standard that human milk is composed of fats, carbohydrates, proteids, mineral matter and water, and that the infant's food should contain these ingredients in the same proportions, is too broad, as under it any form of food could be employed, meat, vegetables, bread, etc., as all of these foods contain fat, carbohydrates, proteids, mineral matter and water. This standard merely states that the infant's food should contain the elementary food substances without which life could not be maintained.

The standard that as human milk is alkaline and cow's milk acid, 5 per cent. of lime water should be added to cow's milk for infants, fails in practice, for 5 and 10 per cent. of lime water is recommended to be added to diluted milk which oftentimes makes the amount added to the whole milk 100 per cent. or more. Lime water or other alkali has a specific action on the milk, altering or preventing its curding in the stomach by rennet or pepsin. The practice may be very good, but the standard is worthless and masks the true purpose and value of lime water in infant feeding.

The standard that was brought forward after the weakness of many of the previous standards was recognized, viz., that it was the relative proportions of casein or caseinogen and lactalbumin that made the difference between milks of different species, is not undisputed. In the first place, casein or caseinogen does not seem to be the same for each kind of milk, and then, Van Slyke has shown by analyzing the milk of hundreds of cows that there is no constant ratio between casein and lactalbumin in cow's milk as was supposed. The quickest and surest way to satisfy oneself as to whether the caseins in human milk and cow's milk are the same is to add rennet and a very small quantity of dilute acid to specimens of human milk and cow's milk and note the resulting curds. Those who read books and compare authorities may have doubts, but those who perform the experiment will be convinced that the standard is wrong.

The standard that as human milk is sterile and cow's milk contains bacteria, cow's milk used for infants should be sterilized by heating, can not be maintained, for we know of the use of buttermilk made by adding lactic bacteria to milk, and it is lauded as a remedy for intestinal disorders for which sterilized milk was thought to be ideal at one time; and even giving bacteria to infants has been reported as successful. That the food must not contain bacteria is a standard that evidently can not be maintained.

VALUE OF FOOD.

As to judging the value of an infant's food by the gain in weight it produces, a standard that is decidedly misleading is employed. According to this standard a mixture containing 3 per cent. fat, 7 per cent. carbohydrates and 5 per cent. proteids is just as good as one containing 3 per cent. fat, 6 per cent. carbohydrates and 1.5 per cent. proteids, if it produces the same gain in weight. Gain in weight may result from storage of fat and water, or in an increase of blood, tissue and bone. True growth consists in an increase of tissue, not in laying on fat, and in reality means storing up proteids. If the food is poor in proteids true growth can not occur, although a gain in weight may be made from the storing of fat produced from the fat and carbohydrates of the food. The fat, anemic, condensed milk baby is an illustration of the fallacy of judging the value of the food by the gain in weight it produces.

The caloric standard of feeding will be shown to be decidedly fallacious. The calorie is a measure of heat, and the number of calories a food will yield is determined by burning it. An ounce of food containing 1 per cent. fat will yield 2.8 calories; 1 per cent. proteids, 1.23 calories; and 1 per cent. carbohydrates, 1.23 calories. From these figures it is easy to calculate the number of calories an infant's food will yield when its percentage composition is known, and below are eleven formulæ, each of which yields the same number of calories. Many more could be shown.

Each ounce of the following formulæ yields seventeen calories.

	Proteids.	Fat.	Carbohydrates.	Calories.
1 oz.	.50	3.0	6.5	17
1 oz.	1.0	3.0	6.0	17
1 oz.	1.5	3.0	5.5	17
1 oz.	2.0	3.0	5.0	17
1 oz.	2.5	3.0	4.5	17
1 oz.	3.0	3.0	4.0	17
1 oz.	3.5	1.0	8.0	17
1 oz.	2.0	1.5	8.0	17
1 oz.	3.0	1.5	7.0	17
1 oz.	3.0	2.0	6.0	17
1 oz.	2.0	2.0	7.0	17

An infant does not use its food for heat production primarily, but for tissue building, and the question is not how much heat will the food produce, but can it produce good tissue? For heat production any one of the above formulæ is as good as another; for producing growth and for practical feeding there is room for choice.

Allowing the infant needed the food for heat, how many calories would it need? How much coal will heat a house? It will depend on the outside temperature, that is, on the loss of heat. In hot weather, the infant produces more heat or calories by moving its muscles and its internal organs than it needs and has to excrete heat, and consequently would practically need no food at all. Such a standard could never be successfully employed in practice.

It will probably always be necessary to use milk in feeding infants; adjusting percentages more or less accurately will never go out of practice; alkalies will have their use; it will be a long time before pasteurization or sterilization is not practiced; the use of small quantities of casein, as in whey mixtures, will always be useful at times; the gain or loss in weight of infants will still have to be watched, but some of the theories on which these procedures have been based will have to be abandoned.

Why can we not take the successful methods of practice, ascertain the principles involved in their use, and from these build up the science of infant feeding? It would become simple and could easily be grasped, and the efforts now devoted to supporting various theories could be used in other fields.

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THE GOSPEL OF TOP MILK.*

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Babies are the most philosophic people. They thrive or die, crow or wail without regard to the half million or more books and pamphlets which have been written about them in all countries in the course of a century. As I can not mention all the authors or compilers, I shall in justice to them or in sympathy with them, not inculpate a single one, not even myself, though I am by no means innocent. You may imagine that many of the topics discussed from year to year were not always new to anybody, except to the last contributor, and that quite often the very simplest fact had to be rediscovered by the latest writer because the literature of yesterday or of fifty years ago happened to be unknown to him. My paper will be brief, though emphatic; more, it may even not contain anything a well-informed medical person will not know. If that be so, I may be considered less a teacher than a missionary.

I wonder how often you have met with cases like that which was sent me by a colleague in good standing and of long practice. He wrote: "This little girl, 21 months old, had nearly normal temperatures in the forenoon, that is about 99 F. and 101 F., and more every afternoon these three weeks and perhaps longer. Nothing to account for it. Please find out and advise."

Case.—First baby, 21 months old, was nursed three months, then brought up on the bottle. Sleeps pretty well; first meal 7 a. m., raw milk 9 ounces; 9 a. m., the juice of an orange; 11 a. m., 9 ounces of raw milk; 1 p. m., some beef juice (for some time past); 4 p. m., 9 ounces of raw milk; 6 p. m., broth and bread; 9 p. m., 9 ounces of raw milk. Most of the food was raw, rich and unmixed milk, and the number of feedings seven; that is at least two too many. The baby is fat, rather flabby, weighs 29 pounds, is quite intelligent, walks with difficulty. Some rickety curvature of the lower extremities, epiphyses swelled, thymus rather large, systolic murmur, the exact location and extent of which can not be made out on account of the baby becoming discontented; urine negative, slight indicanuria only, constipation. Requires frequent enemas; feces rather hard, round, mostly of a light color, shining, contains neither mucus nor blood, sometimes is malodorous. In the early months of life the head perspired much, the occiput lost its hair, the large fontanelle closed at 18 months, the first teeth appeared toward the end of the first year, constipation set in about the third month. No pain anywhere or at any time.

Diagnosis.—You recognize at once early rachitis with craniotabes, adiposity and muscular incompetency, in consequence of the latter early (not congenital) constipation and delayed walking. Peristalsis insufficient to move the intestinal contents, and the excess of fat in the undiluted rich milk resulted in ample saponification, with slow absorption and enough local irritation to cause a "chronic enteritis." The local intestinal hyperemia was increased by the incompetency of the cardiac circulation.

Treatment for the Present.—A large tepid daily enema of 7:1,000 salt water; addition in equal parts to the milk, scalded, of a cereal decoction (in this case oatmeal on account of the presence of constipation) and compound syrup of hypophosphites, one-half teaspoonful, three times a day.

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* Read in the Section on Diseases of Children of the American Medical Association, at the *Fifty-ninth* Annual Session, held at Chicago, June, 1908.

Saponified feces, which in the adult mean, as a rule, insufficiency of the pancreas, are not diarrheic but rather dry. Extensive catarrh with much mucus is an obstacle to saponification, both in the adult and in the young; in the latter mainly when there is no or but little acidity, and when peristalsis is slow, or not much or not at all accelerated. In these cases of saponification of the feces there is no acute catarrhal disorder, but a chronic disturbance of fat absorption. The moderate amount of hyperemia (chronic enteritis) in our baby is just sufficient to raise the afternoon temperature a degree or two, and make the patient more or less uncomfortable. The amount of its discomfort is determined, amongst other things, by the state of its previous health and its temperament.

Assume a case in which fat is taken in a still larger percentage, and, perhaps, an additional cause of disease complicates the ailment. Then the chronic irritation becomes a subacute or an acute enteritis, with diarrhea, foul smelling, acrid discharges and sore anus, emaciation, atrophy and presence of indican, skatol, acetone and diacetic acid in the renal secretion. The face becomes senile, the skin inelastic, so that it can be raised in folds like paper.

The worst cases of the kind are not seen solely among the poor. On the contrary, many occur among the well to do, that is, those who can afford the expensive luxury of killing their offspring with high priced food. There is a medical man in the neighborhood of New York with a single baby of a year. He is a surgeon, opens other people's abdomens often, and looking in, I suppose, or he supposes, he knows all about infant digestion. The doctor is brought up on the gospel of fat feeding and took it without thinking, as we get our religion. Then, being a man of means, he buys for his baby certified milk, four bottles, and gives him the upper fourth part of the four bottles. When the baby was seen, it was shriveled up, the stools were putrid, the urine ammoniacal, the eyes retracted into the orbits, and big, and pitifully pleading for delivery from its father.

Once a week, at least, some such baby is presented at my office. I always feel that no King Herod could commit a more brutal slaughter of the innocents than that which is caused by the overfeeding with cow's milk fat advised by the ignorance or ill judgment of ill advised parents. The top milk[1] feeding has additional dangers, besides chemical decomposition. It abounds in microbes. Dr. Alfred F. Hess has allowed me to read an unprinted paper of his "on the distribution of bacteria in bottled milk and its application to infant feeding." He refers to Rowland Freeman and others, who have shown that the cream of bottled milk contains by far the greatest number of bacteria—Freeman says 300 times as many as the lower strata of the bottle—and that the skim milk, mainly in the lowest part of the bottle, is relatively free. Dr. Hess tried to find out whether or not the distribution of bacteria was uniform in all layers of the cream that rose to the top of the bottle. He found that the uppermost two ounces of the standing quart bottle contained the vast majority of bacteria, streptococci, tubercle bacilli, etc., the first more than the second, the second more than the third, and so on. This is not only in common but also in certified milk, with only fifteen thousand bacteria in a cubic centimeter: particularly when no rapid centrifuging is done, for after the latter the cream contains less bacteria than gravity cream, and the remaining skim milk contains more bacteria than that which is obtained by gravity.

Conditions like those described may also occur in breast fed babies. Salge has the case of a baby who began to thrive only when his mother's milk was deprived of its excess of fat by centrifuging. With one of my friends I saw a baby that would not thrive on his mother's breast milk, which happened to contain 7 or more per cent. of fat. She was a fat woman, who for alleged gallstone colic took several ounces of olive oil daily. Genuine Italian olive oil contains, though not so much as (real) cod liver oil, much more olein than the fats mostly employed by us, viz., those of cattle, sheep, pigs, and of butter, and will influence the composition of the breast milk. When weaned the baby recovered speedily.

Among my curiosities I preserve the letter a famous obstetrician wrote to a young woman whom he delivered of her first boy. That boy had an offensive diarrhea, indican, ammoniacal urine, and he was emaciated. In her anxiety, and being aware that her obstetrician must know best the constitution of the baby whom he met before his mother laid eyes on him, she applied to him and requested the examination of her milk. On the strength of the laboratory report, which yielded 7 per cent. of fat, he wrote that not only was her milk good, but it was very much better than the average breast milk, and added his sincere congratulations. She was consoled for a day or two, the boy not at all. His riches disagreed with him more and more, until he recovered with temporary starvation and barley water.

Percentages of fat lower than the normal one of cow's milk do better. They are sufficient, and they are wholesome. Buttermilk, for instance, has been used by the Dutch peasants since immemorial times as the food of their sick or well infants. Ballot, fifty years ago, and Tesseira de Mattos a dozen years ago recommended it. It is boiled slowly and mixed with wheat flour, cane sugar and salt. For diarrhea the wheat is replaced by farina and rice. Ballot directly opposed the old fat feeding teachings of Ritter von Rittershain, Kehrer and Biedert, all of them, it is true, meritorious pediatrists of the first rank. He used his mixture in the Rotterdam Infant Hospital, though the babies were only 3 weeks old. This buttermilk contains only from ½ to 1 per cent. (Ballot says 1.25) of fat, and albumin from 2.5 to 2.7 per cent. The cause of its beneficial effect I attributed thirty years ago to the low percentage of fat. To my surprise, I find that Czerny and Keller quote me (from the first volume of Gerhardt's great cyclopedia) with approval. Some other modern writers to whom my name is unknown begin to rediscover the frequent injury inflicted by fat feeding.

Asses' milk has always been recognized as a refuge in digestive disorders when neither mother's nor cow's milk or its mixtures were tolerated. Its percentage is low, while its proteids are high compared with those contained in woman's milk. Now a high proteid does not improve a milk's digestibility:[2] the favorable effect, both on the sick and well, of asses' milk must, therefore, be credited to the low percentage of fat. Common sense would conclude therefrom that even a cow's milk with little fat has either enough or even too much of it.

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[1] It has been found that the calves of Jersey cows (giving the richest milk of them all) thrive better on the milk of common cows than on that of their own mother. Even in the feeding of pigs the milk poor in fat has been found to be most appropriate.

[2] Therein I disagree with Dr. Walls, the successful pediatrist of the Northwestern University.

The permissible quantity or percentage of fat varies individually. No laboratory percentage is determined by iron-clad rules, nor was that ever the opinion of its creator, Thomas Rotch, who emphasized as one of the advantages of his percentage feeding the facility of *making interminable alterations. Too much depends*, first, on the amount of enzymes contained in the alimentary tract. They will split fat, which is a compound of fatty acids and alcohol, into its component parts, not only in the lower part of the tract, but in the stomach also. According to Dr. Julius Parker Sedgwick,[3] a fat splitting ferment is met with in the stomach of the newly born rabbit, and in that of the human newborn in or before the second week of its life. It causes the gastric acid of the nursling, which for its formation does not necessitate the presence of active bacteria. The organic acids of the nursling are mostly soluble in ether, insoluble in water, and are not volatile; but volatile fatty acids of lower rank are also found. They are often caused by the effect of bacteria on the higher fatty acids and on carbon hydrated.[4]

Excess of fat is no longer capable of normal decomposition and digestion. Mainly under the influence of alkalies, fat will putrefy and be decomposed into glycerin and fat acids. The former furnishes with cheese, lime and meat many and various products—ethyl alcohol, butyric, propionic, acetic, valerianic and succinic acids.

The fatty acids of the intestines are absorbed either as soaps or as free fatty acids dissolved in bile. They pass through the epithelia into lacteal radicles. Here a reconstruction of fat takes place. Thus it enters into the lymphatic circulation. Very little of it may go into the liver in the shape of soap.

Most analyses credit woman's milk with only 0.1 per cent. more fat than cow's milk. There is no reason in this for an increase, least so during warm weather, even though the fats of the two milks were what they are not, of the same chemical and physical character. Formula 2 of the Nathan Straus Laboratory, which has fed tens of thousands of babies, contains water, 90.11; cane sugar, 5.56; minerals, 0.39; fat, 2.19; proteids, 1.75 per cent. This is meant for babies of from 4 to 8 months. The first of four formulæ supplied in Chicago to very young infants contains milk sugar, 5; proteids, 0.5, and fat 1.5 per cent., a very admirable formula, with the exception of milk sugar, for which I substitute cane sugar. Similar low doses of fat I have given these fifty years in private, dispensary and hospital practice, and have seen the little ones thrive without interruptions and with very few diarrheal disorders, surely not any more than a doubtful milk supply, which was very much worse at that time than that of to-day, and domestic imprudence and the occasional summer heat would explain. Nor have I seen any "fat diarrhea."

There are, however, cases, though they be rare, in which occasional experience teaches the necessity of modifying the percentage of fat in the food. I saw a baby of four months lately that was fed artificially with a 4 per cent. fat mixture and became sick. The intestinal disorder receded when the fat was reduced to 2 per cent. The baby was quite well, the weight increased a few ounces, but then remained stationary. Thus it went on several weeks, until ½ per cent. more fat was given. Then the weight steadily improved.

The absorption of fat is easily disturbed; indeed, more so than that of other ingesta. "Fat diarrhea," so called by Demme and Biedert, is an early symptom, but not always dangerous, except through the liability of undigested fat to become decomposed by putrefaction. Mucous membranes, when moistened with bile, allow fat to penetrate more readily than when not so treated. When bile is prevented from entering the intestine, for instance, in a mild duodenal catarrh, with thickening of the mucous membrane, 60 or 80 per cent. of the ingested fat may be found in the feces, in place of the 4 or 5 or 10 per cent. which are met with in the normal evacuation. This statement of Fr. Müller was also made by earlier observers, such as Bidder, Schmidt and Voit.

Whatever disturbs the intestinal circulation and thereby swells the mucous membranes has the same effect. To that class belongs every form of intestinal catarrh, disorders of circulation caused by uncompensated heart diseases, or by myocarditis resulting from infectious diseases; disturbances of the portal circulation; anemia and chlorosis; obstruction in the mesenteric lymph ducts. Diseases of the pancreas interfere with its diastatic effect, which to a slight degree is present even in the newborn. But their principal effect is the interference with its steapsin, whose function is to split fat into glycerin and fatty acids and, with the aid of bile, to form an emulsion. The latter is alkaline and furnishes the alkalies for saponification. This soap aids also in the formation of fat emulsions.[5]

Though the chemistry of intestinal disintegration, in spite of modern research by Vaughn, Herter and others, be but little known, there are some indisputable facts connected with it. The acetone bodies are formed out of fat; the disintegration of albumin, except through the transformation of leucin, has little to do with it. In this process all the fatty acids do not participate to an equal degree, but mainly butyric, valerianic and capronic acids.

Oxybutyric acid is formed out of butyric and capronic acids, and is oxidized into diacetic acid, which is changed into acetone. The location of this process may be various. Embden claims it to be intracellular and not intraintestinal. Still the latter location must also occur, or, perhaps even predominate, for in the digestive disorders mainly of the young[6] it is very frequent. All this is, however, undecided, for bacteria have little to do with the production of acetone, and the attempt at disinfecting the intestine has little effect. One thing is sure, however, acetone is caused by fat, and acetonuria is very frequent in dyspeptic babies. This emphatic statement of Baginsky's is correct and easily verified by any practitioner in a few minutes and with few reagents.

The most efficient treatment of acetone in the intestine is alkaline and hygienic, the latter by carbohydrates.

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[3] Jahrb. f. Kinderheilk., 1907.

[4] *The normal* fat acids contained in milk are formic, acetic, butyric, capronic, caprylic, caprinic, myristinic, palmitinic, stearinic, oleic and citric acids. The latter is not introduced in the foodstuffs, for it is found during starvation also, and is surely secreted by the mammary gland in the same way as casein, lactic acid and the glycosids of the lower fat acids.

[5] Bile has an additional digestive effect. It stimulates the intestinal muscles and thereby promotes absorption in general. Bile after having been poured out into the intestinal cavity, is again absorbed, but leaves behind cholestearin and bilirubin, which may be oxydized into biliverdin and thus explains the green color of acid or alkaline evacuations.

[6] Schrack: Jahrb. f. Kinderheilk., 1889.

In spite of all opposition the early admixture of thin cereal decoctions as a nutritive, corrective and preventive has conquered its position. Diacetic and β oxybutyric acids, the constituents or rather causes of acetone and the sources of grave nervous disturbances (the coma of diabetes, carcinoma and dyspepsia) act, perhaps principally by binding alkali, ammonium and the fixed alkalies calcium and magnesium, of which the organism is being deprived. Now, if the alkalies which have been recommended in these grave disorders are to have any effect they must be given in large doses. Sodium bicarbonate or citrate are not sufficient, calcium and magnesium in their soluble salts must not be forgotten. It is true that a few observations by L. Meyer, Schwarz and Mohr-Loeb speak of an increase of acetone caused by large doses of bicarbonate of sodium in cases of extreme acidosis, but the same writers furnish cases proving the contrary. Occurrences such as described above, however, are perhaps best explained by Magnus-Levy, who suggests that the ingestion of the bicarbonate in large doses facilitates the expulsion from the cells and consequent elimination of the acetone bodies. In that way their increased amount in the urine would rather indicate a favorable symptom than otherwise.

The fourteen different fat acids found in milk are possibly present in every one of the milk globules. Still the small globules are found to contain more oleic acid and less volatile fat acids than the larger ones. In all probability the fats of different animal milks have each a specific property, just like their albumins. The composition and nature of milk fats is probably of greater importance than we have been taught. That great differences exist is certain.

The composition of milk fat depends on race and food, besides accidental changes caused by altered conditions of health, etc. That is why an appropriate average of fat in individual food mixtures can not be determined on from day to day, and the latitude allowed by Nature must be relied on. Woman's milk has 3.8 to 5 per cent. of fat, cow's milk 3.4 and much more, goat's milk 4.8 and asses' milk 1 per cent. The *melting temperatures* are respectively 30-31 C., 31-31.6 C., 30-35 C. and 15-17.5 C.

	Fat of Woman's milk	Cow's milk
Volatile acids	1.4	6.8
Oleic acid	50	34-48
Cholestearin	0.6	0.5
Insoluble	49	54-60

These few statements show the vast difference in the fats in the milk of the woman and of the cow. The former holds more olein and from two to four times as many fat globules in its finer emulsion. Besides the two milks furnish their individual enzymes, which as is well known differ in every variety of animal.

As it has been proved that an occasional excess of fat even in woman's milk is dangerous, there is the more reason not to identify cow's milk fat with it, and to be doubly cautious in selecting its percentage. *In case of* doubt it is safer to select a low percentage.

SUMMARY

Artificial food is not equivalent to woman's milk. Cow's milk can not be changed into woman's milk. The efficiency of alleged improvements in artificial feeding is liable to be overestimated, and not always received with sound criticism. The advice to add cow's milk fat to cow's milk in order to make it more nutritious or to make its casein more digestible is dangerous.

Between the fats of the woman's and of the cow's milk there are essential physical and chemical differences. The danger of overfeeding with fat can be obviated by reducing its percentage in milk mixtures to to 2 or 2½ per cent.

Cereal decoctions improve the nutrient value and the digestibility of a milk mixture.

If ever the baby, while feeling well, does not increase in weight, the intelligent practitioner may be obliged to add carefully and slowly to the caloric value or general nutritiousness of the food mixture by increasing either the cereal decoction or the fat percentage. Feeding can not be regulated by mathematics so well as by brains, and by the wants of the individual baby.

The top milk gospel is a heresy.

HIGH FAT PERCENTAGES IN INFANT FEEDING*

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If one may judge from the literature bearing on this subject, the attention of those most deeply interested in the artificial feeding of infants appears, at the present moment, to be largely concentrated on the digestion of the fat contained in cow's milk. While we formerly accepted without question that the digestion of casein furnished the chief element of difficulty, and while few will deny that this difficulty is still encountered in infants of disordered digestions or where there is gross disregard of well established rules calling for the dilution of milk fed to very young infants, each year of further experience now convinces us that much of the difficulty ascribed to the proteids has in reality been caused by the fat.

That the difficulties with the digestion of fat were not generally appreciated earlier has been due partly to failure to recognize the untoward effects of limited fat capacity, but largely also to failure to draw correct inferences from the appearance of the stools. From time immemorial any stool which was not smooth and homogeneous, but, on the contrary, more or less conglomerate or divided into small masses has been called a curdy stool. This misnomer, arising probably from the resemblance to curdled milk, has led insensibly to much misconception concerning the actual composition and import of such stools. Of course, a curd, from its very name, could be nothing else than the coagulum of the casein proteid of the milk which the infant received as food. Even the perfectly digested yellow flakes in the stools of young infants which simply indicate scanty intake and scanty residue are called curds and are often supposed to be evidences of faulty digestion. If instead of being yellow these soft flakes were white or green and white, it has not been doubted that they consisted of casein and that they were the result of proteid *indigestion*.

It is true that the large whitish firm rounded masses occasionally found in the stools do contain proteid in considerable amounts after the fat, soaps and fatty acids have been extracted, as has been shown in a serieof analyses reported by the author and Dr. O. M. Schloss at the recent meeting of the American Pediatric Society, but similar tests which were applied to the soft flaky masses making up the bulk of the stools showed that they did not give the reactions for proteid, but were made up of fatty acids, neutral fat and soaps. These findings may at least be said to cast doubt on the accepted view that such flaky white stools are always the result of proteid indigestion, and it may be claimed conservatively that for the present it is an open question whether disturbances of digestion caused by fat may not be responsible for an as yet unknown proportion of such stools.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Equally fallacious has been the commonly accepted view that yellow stools are good stools if fairly solid and homogeneous. The so-called scrambled stool of yellow and green is fairly well recognized as due to high fat, but many yellow stools which might readily pass for fair stools are more or less mushy and have a beaten up, aerated look, as though fermentation had filled them with minute bubbles of gas. They appear to be lighter and of lesser compactness than a normal stool, and when smoothed out on the napkin lack the normal salve-like consistency. Such stools usually become normal after a proper reduction of the fat in the food, with a corresponding improvement in the condition and weight of the infant.

Other indications of inability to take care of the fat in the food are to be found in mucus in the stools, in spitting up or vomiting of sour curds or of fluid of a butyric odor, and in flatulence and colic, the latter two being quite as frequently evidences of excessive fat as of excessive proteid. In older infants, large white or gray stools with constipation are now recognized as being caused by excessive fat or by the non-absorption of fat.

SOURCES OF EXCESSIVE FAT.

This brings us to the consideration of some of the sources of excessive fat and of fat indigestion in general. Two classes of cases are commonly encountered: A. Those infants who for one reason or another can not assimilate a quantity of fat which the average normal infant handles with ease. B. Those infants in whom the disturbance has been caused by percentages of fat higher than those generally agreed on as suitable for the average normal infant. To the first class belong a large number of young infants who do not tolerate the relatively high proportion of fat to proteids (3 to 1) which is usually employed in feeding by percentage methods during the first few months of life. Prompt recognition of the cause of the difficulty, and lowering the fat to 2 to 1, or even less, reduces the number of difficult cases, in which formerly improvement was vainly sought through further reduction and manipulation of the proteids.

In this class also belong children with fever from any cause; children whose digestions have long been disturbed; many children recovering from diarrheal diseases, and children during the hot and humid months of the year, at which period less hydrocarbon can be utilized without disturbance than in cool weather. For all of these the usual percentage formulæ contain, as a rule, too high a proportion of fat.

Fat indigestion is also the question of the hour abroad, where cow's milk plain or diluted is employed in feeding. Possibly some of these infants receive a relative excess of fat because the considerable dilutions of our percentage system are not employed, and one-half or one-third milk are usually starting points, and even full strength milk is given to newborn infants, as in Budin's "consultations" in Paris; or possibly the digestions of such infants as can not cope with these stronger milk feedings are early undermined so that they no longer tolerate even reasonable quantities of fat. Certainly, the onus of fat intolerance can not be laid entirely on percentage feeding.

Ignorant or accidental abuse of the accepted principles of percentage feeding does, however, contribute a seemingly increasing number of cases belonging to the second class, B, where trouble arises from the employment of a fat percentage higher than that generally agreed on as suitable for an average normal infant of the same age. Some of the sources of these high fats may be worthy of consideration. Foremost among these are errors which creep into or are inherent in the various methods of obtaining the usual formulæ.

A common source of error is found in the loose use of cream in so-called cream and milk mixtures. Such mixtures and their estimated percentages were originally based on the use of gravity cream, which was supposed to contain quite uniformly 16 per cent. of fat. But this is often extended in urban communities to the use of commercial centrifugal creams whose fat content may range anywhere up to 40 per cent. Excessive fat percentages may thus be most readily introduced by this method.

I believe that the method of obtaining higher or lower percentages of fat in feeding mixtures which is best adapted for general use and which offers the least opportunity for serious error consists in taking off definitely measured quantities from the top of one quart bottle of average milk on which the cream has been allowed to rise. So long as the "top milk" of but one bottle of average milk is used, and the minimum removed is not less than 9 to 10 ounces, according to the best accepted usage with top-milks, the more serious errors do not creep in. Aside from the use of very rich milks which uniformly raise the percentages calculated for average milk and can readily be overcome by taking more than the indicated quantity from the top of the bottle, the errors usually discovered have arisen from disregard of the essential principles of the method.

One erroneous idea is that cream rising on a bottle of milk has a uniform density, and that the top 2 or 3 ounces, if removed, constitute a 16 per cent. or ordinary gravity cream, whereas the density of the risen cream being greatest at the top and least at its lower line, a few top ounces may contain 20 or 25 per cent. of fat. Instances have been met with where "top milk" has been mentioned without any specification of the number of ounces to be removed. Mothers and nurses have been found who interpreted "top milk" as meaning the cream layer only. If the term "top milk" is to have any meaning of its own in distinction from cream it must be used as meaning that not only all the cream, but also a certain amount of the milk below the cream layer has been removed and the two mixed. Furthermore, if the method is to have any scientific value, top milks of definite fat percentages must be ordered or else the exact number of top ounces of cream and milk must be specified with at least an approximate knowledge of the percentage of fat in the portion to be removed.

It will be noted that emphasis was placed on the use of top milk taken from but one quart bottle. Most fertile in the ultimate creation of errors is the system of using small quantities of the cream from the top of each of two or more bottles. Without passing judgment on the merits or success of this system when absolutely controlled by an expert in its use, there is no hesitation in saying that in the hands of the general practitioner and more particularly when continued, as it often is, by the laity without supervision it seldom fails to lead to trouble. Of the infants I have seen, who were fed from the top of two or more bottles, I can not recall an instance where the infant did not show evidences of too high a fat percentage, and where my opinion was not confirmed by a calculation of the percentages.

Not to be overlooked as a source of digestive disturbances is the employment for infant feeding of cow's milks, which contain fat considerably in excess of 4 per cent. It is the popular belief that rich milk containing an abundant cream is the best milk, and this has led to the increasing use of such milks for infant feeding. Private dairies, from which the cleanest milk can usually be obtained, seek highly bred cattle whose milk is rich in fat. Many of these are our chief producers of certified milk because their owners largely monopolize the means and intelligence for meeting the requirements of certification. The richer milks, whether used to secure gravity cream or top milks, may and do often lead to the making up of formulæ richer in their percentages of fat than those indicated in the percentage schedules which are calculated on the basis of the use of an average 4 per cent. fat milk. Of course, theoretically this form of error can be avoided by determining the fat content of the milk used and adapting the quantities used in the formulæ. Practically, however, but little attention is paid to this question.

Infants in the latter half of the first year receiving a high fat percentage take, as a rule, less milk and consequently receive less proteid than they are entitled to. High fat is a frequent obstacle to the suitable advance of the proteid percentages so necessary for continuous growth during this period and development suffers even if disturbances of digestion do not ensue. If the ultimate harm done by the use of these rich milks from fancy herds was generally appreciated, there would be an increasing rather than a decreasing demand for the marketing of certified milks not exceeding 4 per cent. of fat for the feeding of infants and young children.

Valuable in infant feeding as a percentage of fat moderately higher than that of the proteids undoubtedly is for a large proportion of normal infants, enough has probably been said here of the ease with which it may be abused through ignorance or error. Safety which should be assured by percentage calculations of the food as it is given to the infant is not always attained because such calculations may be based on absolutely incorrect assumptions as to the fat content of the particular cream, top-milk, or milk used in making up the feedings. With the most careful calculations the use of any method of feeding which raises the fat above the level of the proteids requires intelligent discrimination, especially if digestive disturbances are already present or should they arise. It should be one of the axioms of infant feeding that only a certain proportion of infants tolerate the usual schedule percentages of the fat of cow's milk as ordinarily outlined for the different ages, and that while many of them can be managed more safely with less, lower fats are imperatively demanded by a considerable number if they are to escape or be restored from serious digestive disturbances.

EFFECTS OF EXCESSIVE FAT.

The non-digestion of fat often reveals itself by acid fermentation in the stomach, accompanied by spitting up or vomiting of more or less of the food which has the well known penetrating odor of butyric acid. Such acid fermentation once started often inaugurates a train of further difficulties. Fats, as shown by Cannon, are slower in leaving the stomach than either proteids or carbohydrates. In the cases under discussion the residue of fat and abnormal acids tends to remain in the stomach to act as an unhappy leaven on the next feeding taken. Furthermore, if the stomachic digestion is abnormal, the food which passes the pylorus is not in a proper state to favor normal digestion in the intestine, and flatulence, colic and disturbed stools will probably ensue.

In milder cases this train of symptoms may be overcome by the use of alkalies in the food, lavage of the stomach and lengthening materially the interval of feeding. These methods break the vicious circle by neutralizing acidity, emptying the stomach of its abnormal residue and allowing it more time to cope with its problem and to resume normal conditions before the next meal. If the disturbances have been prolonged or severe, good results can only be obtained by cutting down the fat content of the food to such a point that normal digestion may be effected by the stomach. Such reductions must be radical, and although a lower fat percentage or even dilutions of plain milk frequently serve our purpose, at times plain milk may contain too much fat and make it necessary to resort to Keller's malt soup, buttermilk mixtures or skimmed milk.

In a possibly larger group of older infants the difficulty lies in the intestine. We are familiar with the extreme cases passing the large firm pale stools of fat constipation and at times eventuating in convulsions. But shading off from these more typical cases there are a very large number as yet little appreciated, to which high fat also stands in a causal relation. These children do not do well, they sleep poorly, they are pale, irritable and peevish, they do not gain in weight. Careful enquiry and inspection reveal the fact that the stools are habitually large and often rather pale. Non-absorption of fat increases the bulk of the stools in which it appears chiefly as fatty acids and soaps. These cases are not necessarily always constipated, although acute febrile attacks with constipation occur in many of them and should lead to enquiries which, if rightly interpreted, point us clearly to the cause. In these cases free evacuation of the bowels temporarily relieves the symptoms, but if the fat is not reduced they will be repeated later.

Recently the symptoms of children suffering from too high fats have been ascribed to acidosis. However this may be, the habitual use of fat largely in excess of the powers of assimilation gradually undermines intestinal digestion, and such children are often with difficulty, and only after the lapse of months, restored to a normal state.

While much of the present paper has been devoted to pointing out the evils too often encountered from the unintelligent use of unduly high fat percentages and, perhaps, equally frequently from blind persistence in the undiscriminating use of percentages until recently recognized as ordinarily suitable for children at different ages, I wish it clearly understood that I do not intend to make any sweeping denunciation of the usual formulæ for children to whom they are suited. I still advocate and employ them. But the mastery of the rules and formulæ commonly employed in infant feeding is, after all, only the essential primary course in feeding. The true test of our competency to feed infants is to be able to interpret rightly definite indications and to know when and how to depart from such formulæ.

While the part played by fat in causing the digestive disturbances of some infants should receive more general recognition, we face another danger that the crusade against fat will be carried to extremes. But we may rest assured that the pendulum of opinion if swung too far in that direction, will eventually seek a new equilibrium in that middle ground which recognizes that there are almost as many grades of tolerance as there are infants, and that the highest measure of success will always be found where the balance between the fat and the proteids is adjusted after intelligent observation to the especial digestion and requirements of each child.

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ABSTRACT OF DISCUSSION.

ON PAPERS OF DRS. SNYDER, DAVIS, PISEK, JACOBI AND SOUTHWORTH.

DR. C. F. WAHRER, Fort Madison, Iowa: There is in regard to infant-feeding articles generally a little too much of the cry of the nostrum vender. We find not only in metropolitan cities, but in the rural districts, that some children will thrive on anything. On the other hand, some children do not thrive on anything. To-day has arrived the reign of the sour-milk theory. The manufacturers even supply us with tablets containing the lactic-acid bacteria with which we can easily make buttermilk out of sweet milk. The percentage theory is still lauded, that is, that we must have in the food given the baby approximately the percentage of substances found in human milk. When any of the ingredients of normal mother's milk, as fat, for example, appear in abnormal quantity, the second class of children mentioned will die. On the other hand, the attempt to use the percentage system in private practice has been condemned. Men who have at their command well-equipped laboratories and skilled assistants, in connection with large children's hospitals, give the percentage system of feeding high praise. But to send out a measuring-glass that will give a normal percentage of the ingredients—that is certainly carrying percentage feeding a little too far. But a short time ago we believed that sterilized or pasteurized milk would remedy all the conditions that we had to deal with, but experience has shown that many a child will starve to death on it. Some children will thrive on pasteurized milk; but that same class of children will thrive on the contents of the slop-bucket. Sterilized milk is better than much of the milk that is supplied to poor unfortunate mothers who are not able to nourish their children. But one thing is absolutely essential: we must have clean milk. Laboratories for the examination of milk have shown that ordinary milk from an ordinary herd of cows is poisoned milk. A milker with dirty hands and a dirty bucket goes into a dirty barnyard, gives a kick to a dirty cow and then milks milk and dung and cow hairs and other things into that dirty bucket. Then the fluid is strained through a coarse, dirty wire sieve, after which it is kept thirty-six hours and then our children are fed on it. What is
this discussion going to do for us? It all comes down to
the man who reads and listens and uses God's common
will do excellent work in infant-feeding, despite this
disparity in methods.

tt Morse, Boston: I can only say "Amen"
Snyder has said. I hardly agree with Dr.
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well to check up from time to
time in such cases to see if the babies have the necessary amount of calories. It is equally important, also, to calculate the nitrogen in order to be sure that they are getting the necessary amount. Dr. Jacobi says that we should feed babies with brains, not with mathematics. I do not agree with him. We should feed them with brains and with mathematics. We should, moreover, leave out prejudice. We are prejudiced when we say that we should always give a high or a low percentage of proteids, or that we should always use fat or never give fat. We should fit the food to the individual baby. We use the percentage system merely to know how much fat, carbohydrates, proteids and so on we are giving the baby. A few years ago we attributed all the evils in cow's milk feeding to the casein, and we were wrong in doing it. Now the tendency is to attribute all the ill effects to the fats, and we are equally wrong in doing that. Too much fat may do harm, but too little fat will also do harm. Dr. Jacobi's cases merely show the results of the improper use of fat in feeding babies. Every one of us who treats babies can count on a certain amount of income yearly from people who feed too much fat to their babies. That does not mean, however, that a baby should not have all the fat that it can make use of. Dr. Southworth has said something about curds. I have had my assistant in Boston, Dr. Fritz Talbot, working on the problem of curds for the last six months. The large curds have proteids as a base, but they also contain fat, the amount of fat in the curd depending on the amount of fat in the food. If the food contains 4 per cent. of fat, the curds contain a large amount; if 3 per cent., less, and so on. The small curds are composed of soaps and have no proteid, or at least very little, in their composition. Dr. Southworth spoke of the "unusual percentages." There are no unusual percentages. We must fit the food to the baby. As Dr. Southworth has so well said, what we must do is not to follow anybody's scheme, but learn to recognize incompetent digestion, whether of fat, starch, sugar or proteids, and then fit the food to the baby.

DR. W. J. BUTLER, Chicago: I approve of Dr. Snyder's position on the subject of weaning and condemn the practice of weaning a child unless absolutely necessary. Here, as elsewhere, experience teaches us a great deal. The indications for weaning infants are comparatively few. Outside of tuberculosis, insanity or some exceptional condition in which it is impracticable to nurse the infant, every effort should be made to maintain the continuance of the nursing under all conditions. The weaning of a child on the slightest provocation for the various acute infections of short duration is not justifiable. The large proportion of mothers unable to nurse their children has been greatly exaggerated. Most mothers may nurse their children in part, if not entirely.

A surprising evolution has occurred in our own country in artificial feeding with regard to the feeding of fats. Although it is true Dr. Jacobi taught forty years ago not to feed high percentages of fat, this has not been the prevailing teaching. In the feeding of fat, as in the other constituents of the food, it depends on whether we are feeding well children or sick children. Feeding is an important problem in proportion as the nutrition of the child has been disturbed up to the time of the child's coming under our observation. Children who have undergone slight or serious nutritional disturbances will require absolutely different feeding from healthy babies and, therefore, present a very different problem in dietetics. Children who have suffered these disturbances of nutrition will not tolerate fat well, nor will they always tolerate well the carbohydrates. If you feed them a high percentage of fat you may precipitate an attack of alimentary intoxication. You can cause the symptoms of alimentary intoxication to subside within twenty four to forty-eight hours by withdrawing the food and you can again precipitate the same condition by again feeding fat. It was a custom here a few years ago to feed cream mixtures to these babies. As the children recover from alimentary intoxication it has been shown experimentally that they can be fed on casein that has been precipitated, washed, finely divided and mixed with water without producing a recurrence of the condition, but if they are fed on cream mixtures or mixtures rich in carbohydrates a recurrence of the condition will be produced within twenty-four to forty-eight hours. It would seem that too much stress has been laid on the casein as the difficult factor to adjust in infant dietetics.

Dr. T. M. Rotch, Boston: Dr. Jacobi was the one man in this country who brought the subject of infant feeding before the American people. All honor is due to him. He was old when he was young, and now he is young when he is old. That can not be said of many men. This onslaught on the fat sounds to me a little exaggerated. When he says that a low percentage of fat must be given to infants in general, he has overlooked the general principle that one man's experience has but little value. In this discussion we must make use of general facts. We know that there are only three classes of food constituents in the world—the fats, the carbohydrates and the proteids. These, according to the individual physician's brain capacity and common sense, must be used in combination for purposes of feeding. We now understand the reasons for a great many of the results of feeding which in former times were mysterious. Take buttermilk as an example. There is no question but that the effect of buttermilk is the result of the lactic acid ferment, and we are, therefore, using in certain forms of intestinal indigestion the pure lactic acid ferment. When you can get the foodstuff you wish to use, use it, but when you can not you must do the best you can without it. Do not be discouraged when you have to experiment over and over again to get the desired results. Do not hesitate to sweep away the foods, patent and proprietary, owned by the capitalists, who have been leading us by the nose for years. There is no reason why we should use these malted foods. There is no occasion to use any of them. It is degrading that we should use products that are put on the market for the purpose of making money and not for the good of the infant. Suppose they tell us, as they sometimes do, that a baby thrives on some particular proprietary food. The percentage system means nothing more than the use of pure food in the beginning and then the mixture of it to meet conditions. There are hundreds of men in this country who make use of the modern methods of percentage feeding, and they tell me that a baby sometimes does better on some one of the patent foods. We should take this up and make a study of the reason for it. As we have more and more milk laboratories where we can have whatever we wish to order, such as pure lactic acid cultures and the different carbohydrates, there is no reason why we should not be able to prepare the desired foods. The carbohydrates are merely one of the food constituents. If in a proprietary food it is a certain percentage of maltose that is doing good, why not prescribe that percentage of maltose? If you have lactic acid fermentation do not put in milk-sugar, but put in maltose, which does not produce this acid condition as soon as does lactose. If you have an overproduction of butyric acid, use lactose rather than maltose. The lactic-acid bacillus is put in the milk for a purpose. You can do the same thing with dextrose or maltose. Have your starch in a definite percentage. If you want 25 per cent. or 50 per cent. of starch, do not tell the mother to add barley water or oatmeal water, but state exactly the quantity you want; give it in a definite percentage. There is no objection to doing anything you think best; only do not criticize too much the man who believes that the starch ought not to be used, and do not be absolute exponents of fat or no fats, of starch or no starch. Four per cent. of fat is used in feeding well babies all over the country with success, and it is from well babies that we learn how to feed sick babies. That a milk containing a low percentage of fat is of advantage in many cases has long been known. Do not give a 5 or 10 or 15 per cent. of limewater because you think that is about what should be given. You should know just how much is required from what we know of its effect on the secretion of hydrochloric acid and its effect on casein. We have had an onslaught on the proteids, in which Dr. Southworth has done so much. Of course, we know that there is danger, but where does that danger come from? It is the proper combinations of the food constituents which will finally solve the various problems of infant feeding. The time is coming surely when we will prescribe our milk from the milk laboratories just as we do our prescriptions from the apothecary shop.

Dr. J. A. Work, Elkhart, Ind.: We must not lose sight of the fact that rapid feeding, of either proper or improper food, is largely the cause of much trouble in the feeding of children. The child who takes his food slowly will likely have very little trouble with his alimentary tract. If the first act of digestion is performed properly there will be very little trouble subsequently. When the child is unable to take the natural food that is sent with him, it is very unfortunate for him. We are the servants of Nature. We should not dictate to Nature and say, "Follow me." Nature dictates to us and we must follow. I believe that there is a revolution going on in the medical profession and that we are going to become more the servants of Nature than we have ever been before.

Dr. Charles Douglas, Detroit: Dr. Snyder speaks of human milk in bottles. That can be furnished, and it is surprising how much benefit even a few ounces of human milk given during the day with cow's milk will do. But we must be sure that the woman does not bring cow's milk instead of human milk. Unfortunately I know that this is sometimes done. If the infant has an intolerance for fat, it will be a mistake to use oatmeal water, as it contains 7 to 8 per cent. fat. Rice, which is low in fat, should be used. I still do much of my feeding by home modification, chiefly because my patients prefer it. I allow the cream to rise thoroughly, then skim it off, and return it in the proportion suitable to the child. Any combination that makes the child happy and contented will be a success. Dr. Rotch has spoken of the necessity of being absolutely free from fixed ideas in percentage feeding; that is right. I find an immense number of patients who can take only a low percentage of fats. It is absolutely necessary always to give the proteids. They are the one article of diet we must use all the time, and we know now that they do not cause as much trouble as we then thought.

If the digestive power is much weakened, most commonly success depends on reducing the fat or keeping away from it as far as possible. The addition or removal of a tablespoonful of cream distributed over the whole twenty-four hours' feeding often means a well or a sick child. In other cases the watery stools may indicate the necessity for a reduction of the sugar. When a child can not take sugar, a starch may be used. I have found some of the malted starch foods very valuable in some cases as nutritional agents and in other cases as slightly laxative agents. In these cases one to two teaspoonfuls are mixed with the whole food for twenty-four hours. This is relative, of course, as the amount varies with the individual child. In my work no starch is so reliable as rice, because it contains the least fat and is the most easily digested starch that Nature has given us.

Dr. Ella V. Davis, Chicago: The remark as to the obstetrician taking care of the baby for two months does not apply, for I asked for only two weeks. I think that not all obstetricians make a sufficient study of infant feeding, but it is equally true that the pediatrist does not know all about the mother's milk, if he does know all about the child. For that reason I think that the obstetrician should take care of the child for the first two weeks. There are intervals when the mother's milk changes. One analysis does not amount to very much, and you should analyze the milk frequently before weaning a child because of the analysis. I have in mind an instance that illustrates the statement that children are often weaned unnecessarily. A child was brought to me with the statement that it had been weaned in two weeks because the mother's milk did not agree with it. I found that the sugar in the mother's milk was very high, nearly 9 per cent., but at the end of three weeks of patient trials we succeeded in getting the child back on the mother's milk, and it nursed her for six months successfully. But ten of these hundred patients had distinctly scanty milk, and even those ten nursed their children fairly well during the first two weeks.

Dr. J. Ross Snyder, Birmingham, Ala.: The discussion this morning easily proves my statement that it is hard to get medical men as much interested in breast milk as in cow's milk. I think that it is not entirely due to the authors of papers, but that there is something in the subject itself. Many doctors will drop the subject of breast milk as if it were something exceedingly warm, but they will hang on to the old cow's tail to the very brink of the precipice. The cow's milk in a calf's stomach is in curds and it does not give him the colic. He kicks up his heels because he feels well, not because he has a colic. His stomach is suited to these curds, because it is a stomach that is intended later to digest hay and such coarse foods. Mother's milk is as unsuitable to the development of the calf as the cow's milk is to the development of the child. The cow is a herbivorous animal and man is not. There would be just as much sense in feeding a man on hay as in feeding a baby on cow's milk. Only one circumstance justifies a man in eating hay, and that is that he can not get any other food. We might as well cut off a calf's ears and tail and try to make a baby out of it as to feed a baby cow's milk as if it were a calf. As long as we can find breast milk there is nothing to justify our giving the baby cow's milk.

DR. THOMAS S. SOUTHWORTH, New York: Much blame has been unnecesarily laid on the American mother for not nursing her children. There are a small number of mothers who can not nurse their children and a very small number who will not, but a great many more babies are weaned because the doctor does not know how to manage the mother or the child at the breast. Children are weaned from the breast because of a wrong interpretation placed on their stools and on their symptoms. Often children are brought to me with the statement that they were weaned early because they did not get enough milk. I ask if they were weighed to determine whether they were gaining and I am told that they were not. I ask what kind of stools they had and I am often told that they were yellow stools. Yellow stools indicate that the child is getting a fair amount of breast milk. If there is some breast milk, even if it is not enough, is it not better to give some supplementary feedings and continue the breast feeding? For, by looking after the diet and hygiene of the mother you can very often bring into the breasts considerably more milk than was present during the first two weeks when the mother is in bed and in the house.

HEREDITARY PREDISPOSITIONS:

THEIR RELATION TO INSANITY AND TO SOME OF OUR SOCIAL PROBLEMS.

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The physician and those interested in social work are daily brought to realize the important, and often serious, consequences exemplified by the tendency of progeny to develop a constitution physically, mentally and morally like that of their ancestors. Yet men still seem afraid to face this question squarely, and are apparently blind to the suffering ensuing from this disregard. Doubtless there is nothing which is of more importance in the molding of our individual and social welfare than the undisputable facts connected with hereditary transmission, and the proper understanding and observance of these laws.

THE LAWS OF HEREDITY.

It is apparent that man, on the whole, uses better judgment and shows more effective interest in the effort to develop a higher type of the domestic animal than in the endeavor to perfect his own kind. And do not the lower animals present on every hand logical and vivid illustrations of the effect of hereditary tendencies? Numerous examples could be given to show how plainly these laws operate, not only on the general physical form, but also on the habits and intelligence of the lower animals.

Why are not these deductions of value to us, and why do we not permit the everyday examples furnished by the animal kingdom to guide us, to some extent, in forming conclusions and suggesting remedies to be applied, as far as desirable, to our own plane? Is it not reasonable to believe that the same general principles apply to man, and that if they were rightly comprehended and heeded, much weakness, disease and many other shortcomings might thereby be prevented? Not only this, but the more important work of developing a higher order of beings might be accomplished.

I realize the almost unsurmountable obstacles presented. I know that in the carrying out of the spirit of this theory, or logic, we should necessarily invade, in many instances, certain rights and privileges of man now considered as sacred ground. It will probably be only after centuries, perhaps, of careful education and continuous striving toward the pursuance of rightful standards of living that anything like the existence of ideal conditions can be attained.

The searcher after scientific truth has vainly endeavored to demonstrate the manner in which hereditary traits are transmitted, and many theories have been advanced from time to time, most of them, however, not fully withstanding the test of accuracy, and none of them thus far advanced, accounting sufficiently, in every respect, for all of the phases manifested in the process of descent.

For example, the theory of pangenesis of Darwin was at first supposed correct, but finally proved inaccurate in more than one respect; and likewise many other theories. Yet whatever salient points there are in these, and in any of the formulated theories of evolution, or descent, which have not as yet been established, may be worthy of further investigation. The effect of the law of heredity on the progeny, however, is plainly evident, and this fact is, after all, of more importance as affecting our immediate deductions.

The different tendencies manifested by the mother during pregnancy are of interest in connection with their subsequent effect on the offspring. The conditions, crises, environment and other influences surrounding and affecting pregnancy are manifested in the later environment and tendencies of the progeny. This seems strong evidence that the character, disposition and preferences of the individual may be molded, to a great extent, prior to birth. It is even possible that parents may take advantage of this, by studying these conditions, in order to further the interests of their children, and to insure for them, as far as possible, the possession of such qualities and inclinations as may seem desirable.

It is also true, conversely, that vicious tendencies on the part of either parent are just as readily transmitted to the progeny. Repeatedly we see illustrated the sad effects resulting from the fact that the mother, during pregnancy, was subjected, perhaps, to painful experiences, and was greatly affected at times by the different emotions, such as grief, anger, jealousy, fear, etc.; or likewise from the indulgence in alcoholics or other dissipations by the mother during pregnancy, or on the part of the father at the time of impregnation. There are many causes arising, as here suggested, sufficient to account for a predisposition weaker than that of a child procreated under more favorable circumstances.

EFFECTS OF HEREDITARY PREDISPOSITIONS ON HUMAN PROGRESS.

Two of the greatest scourges threatening humanity at present, tuberculosis and insanity, are examples in which hereditary tendencies have been proved many times over. It is certainly very doubtful if man ever enters the world afflicted with either consumption or insanity (not classing as true insanity the congenital stunting of brain structure, such as would produce the idiot); but that human beings often inherit the predisposition to acquire these diseases easily, when the various exciting causes in after life may arise, is surely an incontrovertible statement.

Examination of the views of eminent alienists of the United States and Europe shows a wide divergence of statistics in the percentage of cases of insanity attributable to hereditary causes. Thus there are percentages given as low as 4 and as high as 90. It is evident that the first figure is too small to be accepted. The great divergence is probably due to the different methods used in obtaining information on which the statistics are based. The lower percentage may have included only cases of direct heredity, and the higher percentage all cases influenced by hereditary predispositions. If we were able to gain an exact history of the family tree in every case of insanity, the estimate of 90 per cent. of cases in which hereditary conditions play some part would probably be found not far from the truth. Yet we must bear in mind that a certain number of insanities occur from purely acquired causes which produce organic changes in the brain, and a certain number also are owing to senility. Yet even in these last two groups of psychoses, it is certain that neuropathic and psychopathic hereditary predispositions are often of assistance in making such persons the easier victims.

Statistics regarding insanity show a correspondingly smaller percentage of cases in communities where marriage outside of a given group or class is not restricted and a greater percentage in those in which it is restricted or forbidden, as in the case of the Quakers and similar religious organizations. The aristocracy and royalty of the old country also furnish abundant illustrations, and we observe that the marriage of blood relations is very apt to be productive of progeny of deficient mental characteristics; deaf-mutism, among other defects, is also frequently noted. It is doubtful, however, if the marriage of relatives in itself is sufficient to produce degeneracy of one type or another if their ancestors were able to produce a clean bill of health, but if there be any hereditary taint in the family history the danger of degeneracy by transmission is correspondingly increased.

The tendency to transmit the same picture of degeneracy to succeeding generations is not seen so often as would be expected; on the contrary, the several generations more often present different types of deterioration. Thus we find that the parent of the epileptic may be the habitual drunkard, that the offspring of the epileptic may be the insane, or the habitual criminal, that the offspring of the insane may be the congenital idiot, or that any of these may be productive of different types of moral degeneracy, and so on. It is observed in many cases, however, that the type of degeneracy becomes more serious in each succeeding generation. We must add, as bound to these, the milder forms of degeneracy, such as are found in some form of neurasthenia and hysteria; also the many stigmata which show themselves in the physical make-up: frequent malformations, such as extra fingers or toes, hairlip, clubfoot and various defects in the normal contour of the face, skull, ears, etc., often bearing close relation to degeneracies connected with the higher nervous system. Physical stigmata of degeneracy, however, are often found without the existence of mental defects.

It has been disputed whether alcoholism is the effect or the cause of many neuropathic and psychopathic conditions. Both sides of the question can be answered in the affirmative. In many cases alcoholism is one of the most evident of psychopathic traits. We should look on the drunkard, not always as a creature who indulges himself in a vice, but as one chained to a habit through the shortcomings of his ancestors. For the real cause of much of the drunkenness in our land lies even deeper than the existence of the liquor traffic.

Alcoholism is undoubtedly productive of numerous forms of degeneracy, and investigation of the history of those patients received by insane hospitals, as taken from the most authentic records of Europe and this country, show that one-third to one-fourth of the total number have ancestors who were affected by alcoholism. Practically the same percentage holds good in the history of asylums for the feeble-minded and epileptic. Although to a casual observer the habitual drunkard, between periods of intoxication, may appear approximately normal, in time more or less degenerative changes take place in his mental and moral character, betraying themselves in the failing sense of all ethical impulses, and causing him gradually to descend the moral scale, even, perhaps, to depravity and crime; or eventually his weakened mental functions may render him an easy victim of hopeless lunacy. Much said regarding alcoholism applies also to the different drug habits.

Degenerative defects of all kinds, usually coupled with ignorance, and often productive of insanity and kindred diseases, are found in great numbers among prostitutes, and are likewise of frequent occurrence among all criminal classes and their descendants. We must concede that the habitual criminal, like the habitual drunkard, is often, unhappily, an expression of defective mentality, a victim of transmitted tendencies, whose rightful place can not with certainty be pronounced to be the penitentiary.

At times we find examples of heredity in which the evidence is convincing of directly similar psychopathic traits appearing in a family, as illustrated by the suicidal mania occurring in successive generations.

Attempts have been made to reduce the approximate value of deductions obtained from the study of hereditary laws to terms of mathematical accuracy, and it is asserted on excellent authority that each individual can accordingly accredit the parents with one-fourth, the grandparents with one-eighth, the great-grandparents with one-sixteenth, and the more remote ancestry with a like descending fractional ratio of responsibility for his or her characteristics. This rule whether or not it is absolutely correct, is corroborative of the facts noted regarding the presence of a greater proportion of morbid hereditary predisposition in children whose ancestors were blood relations. The weight of authority seems to incline toward the theory that women, in greater number than men, possibly because of the possession of a higher type of nervous organization, are victims of those forms of insanity in which hereditary tendencies play an important rôle, and that the predisposition to this malady and to kindred afflictions is inherited oftener through the mother or through maternal line. The latter statement is disputed, however, by some authorities of note.

The peculiar forms of psychoses and neuroses in which hereditary predispositions play an important part are now fairly well recognized by the alienist and neurologist, and it has been proved without fear of dispute that in many cases it needs only the subsequent exciting cause arising in life, such as puberty, pregnancy, parturition, disappointments, worry, mental strain, many of the various physical ailments, and so on: even so slight a cause as change in environment being sufficient, on occasions, to unbalance a susceptible nervous organization.

NEED OF GENERAL EDUCATION.

In view of these facts, is it not necessary that the general public should be made conversant with these findings? Also, do not many of our present social conditions greatly aggravate the causes favoring hereditary degeneracy?

Let us consider, briefly, some of the moral and social problems that are intimately related to these questions, and whose alleviation would be followed by much improvement in our general as well as hereditary welfare.

Among the causes operating unfavorably for those possessing faulty hereditary predispositions may be mentioned the exigencies of the times. For this is an age of potential enterprise and vast achievement. The struggle for wealth and position, however, is often cut short by failing mental vitality, and the lists of those patients cared for by insane hospitals include the names of lawyers, bankers, ministers, doctors, teachers, clerks—in fact, of men and women from every walk of life, many of them brought to this state as a result of the continued overtaxation of mind and body of insufficient capability.

Again, the congested districts of our great cities add their full measure to the ranks of these unfortunates. The sweat-shops, many with unwholesome and depressing surroundings, and often guilty of the employment of child labor, add no small share toward the general deterioration of many of our citizens. Is it any wonder that the overcrowded poor, with a dearth of all that makes life endurable and comfortable, and surrounded by ignorance and vice, should succumb in such numbers to the ravages of the different degeneracies? The noble work carried on in Chicago under the auspices of Hull House shows what may be accomplished by social settlements when true and sympathetic understanding of the needs of others is an inspiration to labor.

It is with thankfulness that we occasionally find in these unsightly thoroughfares an oasis in the form of a park, or see springing up here and there a playground for the children. Would that there might also be found in all such districts schools containing free kindergartens, and teaching manual training, domestic science, and, as far as possible, agriculture also! Such departments should remain in session during both winter and summer in order to be of real benefit, for when children are suitably and happily occupied there is little danger of evil reaching them.

It is indeed to be regretted that the national government is probably unable to pass such laws as would prevent the crowding together in the thickly populated districts of our great cities of many of the immigrants who reach this country every year. What a pity that the laws of the United States can not direct this tide of immigration toward the vast rural districts in which our country abounds and which are still in need of cultivation! Here certainly are to be found influences conducive to physical and moral health, and the country and the immigrants would be equally benefited, while the children of the latter would grow up in surroundings more favorable for the evolution of useful citizenship.

Among other matters pertaining to the general welfare, are not the prevailing increase of divorce and the lack of serious consideration shown in the assumption of marriage ties of direct menace to the good of posterity? From the standpoint of justice toward unborn generations, should not marriage in all cases be considered as sacredly, unemotionally and rationally as possible? For it is to the home that we must look as an important factor in the betterment of all conditions governing hereditary and other reforms.

Our public schools are also of much value in inculcating right ideals. Would it not be wise if more attention were given to the nervous and mental condition of the pupils, and if part of the education should consist of the early instruction of the pupil in the knowledge of hereditary laws, and in the laws of Nature in general? The natural pride of parents in the accomplishments of their children often results in urging them toward educational and other attainments far beyond their capabilities. While I do not depreciate the value of higher education for those who are in every way fit, I believe that a diploma that is gained at the cost of a wrecked mental or physical organization is surely a very poor investment in life's securities.

Let us insist that every student, before matriculation at our colleges and universities, be subjected to a thorough and searching examination as to his or her nervous and physical condition, by a competent medical commission, which should lay special stress on such defects as are commonly transmitted by hereditary faults.

Among other evils that seriously affect the welfare of our young people should be mentioned the cheap playhouse, with its lewd burlesque shows and its suggestive performances. These are of direct menace wherever they may exist, as is also much of the cheap literature that is flooding the country on all sides. It is usually the person of unstable nervous organization and susceptible character who is the ready patron of both, and the direful effect of these forms of entertainment is often distinctly palpable.

There is a necessity for constant vigilance on the part of parents in the rearing of their children. Let me emphasize the fact of the harm that may result from neglect to inform boys and girls of the essential principles relating to facts of heredity, and to the laws controlling human existence. The responsibility of parents is the greater if they are rightly acquainted, as they certainly should be, with their own shortcomings and those of their ancestors. The laws and facts pertaining to the health of the generative organism should be rightly understood by all; also the far-reaching effects of all venereal diseases, especially of syphilis, which, either directly or indirectly, sends countless victims to the asylums for the insane, feeble-minded and epileptic, produces many physical wrecks and perpetuates evils from generation to generation.

At the present time there is evidence of newly awakened interest in many problems affecting the moral and social development of humanity. I believe that no teaching has done more for the spreading of vice with its ensuing consequences and for the encouraging of a laxity of principle among young men than that abominable and mistaken idea of the necessity of a double standard of morality for the sexes. From the ranks of those so taught, it is quite possible, springs many of those moral and social degenerates, of all classes of society and wealth, who regard with mistaken levity any attempts toward the maintenance of virtuous standards, and whose worthless or vicious offspring contribute a large share to the innumerable types of deterioration. Men should cease to tolerate these pernicious and erroneous ideas, and our youth should understand that a reasonable care for and preservation of the health is a part of morality. Furthermore, in the interests of justice, we should properly require of our sons the full measure of virtue we expect of our daughters. It is an evident truth that what is wrong for a woman is wrong for a man. This truth should receive full recognition in the marriage estate and in all other relations of society, since such recognition is a part of the endeavor to improve the race.

The enduring effects of hereditary laws should convince us that it is necessary that we should understand ourselves, our peculiarities and shortcomings; that we should also heed the lessons of the past; that we owe to every child the birthright of those inherited tendencies which make for strength and health of body and mind; and that proper knowledge should be given children in order that they may be prepared to meet the perplexities of life.

Church and pulpit, school and college, parent and physician, each should contribute a proper share toward the improvement of moral and social influences, and to the publicity and study of various social questions. Fearless and wise education is needful everywhere if the menaces to the general good are to be lessened in any perceptible degree.

Considering the immeasurable influence of heredity on interests of future generations, there is believed to be an urgent necessity for the enactment of legislation which will prevent the perpetuation by hereditary degenerates of their hopeless species. It is certain that the population subject to confinement in our penal and charitable institutions would be greatly diminished through the operation of careful and considerate measures.

When people become fully conversant with the truth, public sentiment will make it possible to correct these evils with justice to all, no matter how radical and unpleasant at first sight such remedies may appear.

PERITHELIAL SARCOMA OF THE UTERUS.*

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According to von Wenczel[1] the ratio of the frequency of carcinoma to sarcoma of the uterus has been placed by the authorities as 24 to 1. The site of sarcoma is generally in the corpus or fundus. For each time that sarcoma begins in the cervix there will be eight cases in which it will be found to have originated in the corpus uteri.

The uterine sarcomata spring most frequently from the mucosa—much more commonly from this structure than from the outer wall of the uterus. When a sarcoma does find its origin in the external wall, it usually originates in a degeneration of a fibromyoma, and is then of exceedingly rapid growth and commonly attains a considerable size.

Sarcomata developing in the uterine wall are most commonly of the spindle-celled variety. This form is four times as common as the round-celled sarcoma. Of the round-celled sarcomata found in this organ the small-celled type is much rarer than the large-celled variety. These general observations will emphasize the special interest attached to the following case:

Von Wenczel[1] reports an instance of the small round-celled variety of sarcoma developing in the cervix of a woman 46 years of age. The tumor, which was ulcerating, had reached the size of a child's fist. The cervix was amputated, but after the report of the microscopic examination a vaginal hysterectomy was performed. No evidence of fibromyoma was visible. The tumor sprang solely from the cervix. The connective tissue of the mucosa was inflamed and hypertrophic and the inflammatory infiltration passed into the substance of the tumor without showing any sharply defined line of demarcation. Accordingly, it was assumed that the tumor developed from the wall of the cervix itself, and not from mucosa, and that it was, therefore, a primary growth.

Lazarus-Barlow,[2] while speaking of perithelial tumors, remarks that the "group of the endotheliomata must be widened to include certain varieties of growth (occurring especially in the cervix uteri and the breast, but also occurring more rarely in other parts of the body) which are commonly, if not invariably, described as squamous or spheroidal cell carcinomata." From the microscopic appearances of von Wenczel's case, which I have recorded above, I feel justified in believing it to have been a perithelioma of the cervix, which should be included in this group of endotheliomata of Lazarus-Barlow.

Last October I encountered a case in my private practice which was one of more than ordinary interest.

Patient.—An unmarried woman, 65 years of age, for a little over two months had been complaining of pain in the pelvic region. She had visited a woman physician of considerable ability, who had examined her vaginally, and had pronounced the condition rheumatism of the pelvis. The patient was placed on a suitable course of treatment, but without an amelioration of the symptoms. In fact, the pain grew more severe and the patient was referred to me.

Examination.—I found the woman anemic and thin almost to gauntness. The skin was shrivelled and on the abdominal surface could be pinched up in thin folds. It was sallow or pale yellowish in color. After considerable difficulty due to the modesty of the patient, I succeeded in making a vaginal examination, in which the following points were elicited: The vagina was small and undergoing senile changes. The vulvar mucosa showed the characteristic smooth yellow appearance of senility. The uterus lay anteriorly, was small, although larger than would be expected from the age of the patient, and slightly sensitive to the touch. There was a very slight discharge, sanguineous, but without odor or any decided appearance of hemorrhage. At no time had the patient suffered from bleeding, nor had she at any time noticed any odor to the small amount of leucorrhea of which she complained. The history of the patient, her age, the condition of anemia, and the local signs impressed on me the importance of a microscopic examination of the intrauterine curettings and after considerable difficulty this was agreed to. Under ether anesthesia the uterus was scraped at the patient's home and a considerable amount of débris obtained. The examination at this time confirmed the findings of the previous exploration and also demonstrated the absolute mobility of the uterus and the healthy condition of the ovaries and tubes. The scrapings were sent to Dr. A. O. J. Kelly, who reported that they showed an unusual condition of great malignancy which warranted the immediate removal of the uterus. He at this time pronounced the growth a perithelial sarcoma, the small tumor-cells showing an unusual degree of grouping around the vessel walls.

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*Read before the West Philadelphia Branch of the Philadelphia County Medical Society, April 11, 1908.

[1] Zentralbl. f. Gynäk., 1907, No. 34.

[2] Glasgow Med. Jour., 1907, lxviii.

Operation.—Two days later I removed the uterus and tubes, performing a panhysterectomy. This, at the request of the patient, was done at her home. I was assisted in the work by Drs. H. A. Slocum, G. A. Knowles and F. A. Faught, and two skilled nurses. The operation was simple and uncomplicated, taking not more than thirty minutes for its completion. The patient made an uninterrupted recovery for three days. Then symptoms of bowel obstruction intervened and despite the use of eserin and the other remedies generally employed in this condition the patient sank steadily and died of paralytic ileus on the evening of the fifth day. Lavage was not resorted to on account of the age and feeble condition of the patient. A water-color drawing (reproduced in the illustration) was made of the fresh specimen, after which it was forwarded to Dr. Kelly for a pathologic report which I here append in full.

Pathologic Report.—"The scrapings consist of a new growth made up of a framework of fibrous connective tissue supporting large cylindrical cells with clear vesicular nuclei. The connective-tissue stroma is quite scanty, and in some places altogether wanting. The tumor cells, for the most part, are arranged radially about and attached directly to capillary blood vessels—whence, morphologically, the term 'perithelial sarcoma' seems justified. In other places there is a diffuse infiltration of the tissue—endometrium and musculature—by the tumor cells. The uterus is rather small and reveals at the fundus a rough excrescence about two centimeters in diameter projecting into the cavity and infiltrating the wall of the uterus to a depth of seven to ten millimeters. Microscopically, the growth consists of a connective-tissue stroma enclosing epithelial cells arranged after the manner of the glands of the endometrium. In general this glandular arrangement is more or less well preserved but in many places it is altogether wanting, and the epithelial cells infiltrate the tissues irrregularly, as is common in this type of tumor. The tumor must be called an adenocarcinoma of the uterus. The growth in the uterus is typical microscopically. The scrapings were quite atypical, and serve well to illustrate the wide variations that tumor growths may undergo—indeed, the metaplasia to which their cells are sometimes subject."

In the light of the foregoing report my case assumes a considerable degree of importance, inasmuch as it is the first case reported of perithelial sarcoma of the fundus of the uterus, or of a tumor most closely approximating that unusual neoplasm. While fundamentally an adenocarcinoma, with symptoms differing somewhat from the usual, owing to the metaplasia which its superficial cells had undergone, it gave under the microscope the typical picture of a perithelioma—so much so that in the hands of a very able pathologist the first diagnosis was that of perithelial sarcoma of the uterus.

The literature of perithelial sarcoma—also known as perithelioma, endothelioma perivascularis and angiosarcoma (A. plexiformis, A. peritheliale) is very scant. I have been able to find but eighteen references to papers dealing with the condition as occurring in various portions of the body. Zietzschmann's paper[3] is an exceedingly interesting treatise, covering the recorded information of perithelioma as occurring in lower animals. In the human body authentic cases have been noted as occurring in the cervix uteri (never as yet in the corpus—whence the special interest attached to my own case), on the face, on the lip, on the eyelid, in the pelvic connective tissue, in the testes, behind the ear in the parotid gland, in the brain, on the optic nerve, in the lymph-glands, in certain serous membranes, in the soft palate, in the subcutaneous connective tissue, in the muscles, in the kidneys, mammae and ovaries, in the bony system, and in the carotid body (the latter very rarely, the tendency of growth here being upward). Wherever occurring, these tumors show a marked tendency to undergo a hyaline degeneration.

The English pathologist, Bayon,[4] has probably given the best pathologic description of peritheliomata and assigned to them their proper oncologic position. He states that "all growths presenting a radial disposition of cells around blood vessels may be termed peritheliomata, even if it cannot be conclusively shown that they originate from the perithelium."

There has been some misconception as to the exact definition of the various terms employed. Generally speaking the term "angiosarcoma" may be regarded as generic, embracing all sarcomatous tumors occurring in connection with the blood vessels, whether capillary or of larger caliber. This generic term may then be regarded as including the two sub-groups, the endotheliomata or those tumors springing from the endothelial cells and the peritheliomata or those arising from the perithelium, which, according to Bayon,[4] "is a purely topographical expression."

Endothelial cells are those cells which line the lymphatics and blood vessels, and these take their origin in the cells which form the perithelium so called, the layer of cells which surrounds the capillaries and smaller vessels. The perithelium has been demonstrated conclusively around the vessels of the brain and cord. Eberth and Iwanoff, I believe, were the first to find that the vessels of the pia mater showed the perithelium, and they proved that this structure constituted the external boundary of the vessels which ran through the so-called perivascular spaces and that it did not form the external wall of these spaces. The perithelium has also been described as existing around the vessels of the pineal gland, the mammary gland, the suprarenal capsules, the thymus gland, the salivary glands (Ebert, Leydig, Henle, Kölliker and Boll), and in the vessels of the testicles (Ebner, Leydig, Henle, Kölliker and Boll). A similar, although probably not identical, layer of cells was described by Waldeyer and Sertoli in the coccygeal gland and by Paltauf in the carotid gland.

Bayon[4] states that "the consideration of perithelium as a special class or quality of cells has in no case met with the approval of any histologist so far as he knows. It is also uncertain as to what and how far layers of cells disposed round vessels in various organs deserve to be called by a special name."

An endothelioma should accordingly be defined as a growth taking its origin "from the endothelial layer of cells of blood vessels and lymph sinuses, the growth and these cells being both contiguous and continuous." The name should be exclusively reserved for those growths which really show similarity in disposition, position and general morphology to genuine endothelium (which it must be remembered, is solely and alone the lining membrane of blood vessels and lymphatics). From a morphologic standpoint it is admissible to make use of the expression "peritheliomata" to designate a peculiar class of growths springing from the delicate external layer of cells around the minute vessels and showing the characteristic radial disposition of the tumor cells.

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[3] Beitrag zur Kenntnis der Peritheliome angiosarcome bei Thieren, Ztschr. f. Thiermed., 1904, viii, 417-427.

[4] Brit. Med. Jour., 1907, ii, 1400-1402

According to Vignard and Mouriquand,[5] who report a case of perithelioma of the face in which ligation of the primitive carotid was practiced, with death in four days, the greater portion of a perithelioma is composed of capillary vessels more or less distended. The characteristic cellular proliferation begins at the external wall of the vessel and not in the lumen of the vessel, as in simple hemangio-endothelioma. These peritheliomata are characterized by a radial disposition of cells around the vessel, as has already been stated, and, according to von Hansemann, this disposition is due to the growth-cells being more readily nourished in that position.

Bayon states that metastases are not at all frequent with such tumors, which is diametrically opposed to the general expectation when there is taken into consideration the extreme vascularity of the tumors, their intimate approximation to the blood vessels, and their multiplicity of small cells. They are, however, characterized by infiltrative and rapid expansive growth, but on complete and thorough operative procedure do not show a tendency to recur.

An interesting question associated with peritheliomata and, indeed, with tumors generally, is that which concerns the metaplasia to which their cells are subject, and which my own case showed to a remarkable degree. In this connection Bayon offers a very important suggestion. He wishes to know whether sarcomata showing this perithelial arrangement of cells are in the early stages of development, and whether they ultimately become carcinomata? This question he answers as follows:

> It can most definitely be proclaimed that there exists at this moment no conclusive proof of the fact that a carcinoma cell is ever anything else but a carcinoma cell, from the very beginning of its existence in the human or animal body. The same may be said of sarcoma, though with sarcoma a certain amount of circumstantial evidence exists which renders its origin from preexistent, apparently normal cells probable; this, I repeat, is not the case with carcinoma.

Here is a question of vital interest in histology and pathology which may ultimately exercise an important influence on the study of oncology.

The other papers, bearing on the subject, which I have been able to collate from the world's literature are as follows: Schmincke,[6] who reports two cases originating in the left arm of men 62 and 65 years of age; Toyosumi,[7] of Tokio, a case of papillary cystic lymphangio-endothelioma of the abdominal wall in a woman 52 years of age; Faucon and Augier,[8] an endothelioma of the jaw, both melanotic and exceedingly vascular, in a woman 56 years of age; Nitsch, who publishes a brochure[9] reporting a case of endothelioma of the pelvic connective tissue; Wingrave,[10] cases occurring in his laryngologic practice; Znojemsky,[11] a cystic endothelioma of the face; Lazarus-Barlow,[12] a case with general observations; Looser,[13] one case of endothelioma; A. Bevacqua,[14] a case of retroauricular perithelioma; A. Carless,[15] a general article on the subject; F. Cinotti,[16] a case of telangiectatic cervicofacial tumor in a man 60 years of age, invading the jaw; and some peritheliomata of the osseous system by Ritter,[17] Müller,[18] and Crile and Howard,[19] who report four new cases and nineteen culled from the literature of the world.

1623 Walnut Street.

Clinical Notes

OVERDOSAGE OF VERONAL.

JOHN E. CLARK, M.D.

DETROIT.

The following instance of overdosage of veronal is, I believe, sufficiently unusual and interesting to be worthy of record:

Patient.—A business man, aged 35, with no organic lesion, was greatly distressed during the recent panic by an investment of several hundred thousand dollars in mining securities, which were steadily decreasing, and had resorted to an occasional "bracer" as a mental stimulant.

History.—He consulted me recently, suffering from melancholia and persistent insomnia, results of worry and too liberal indulgence in the aforesaid "bracers." I had treated him twelve months before for similar trouble, when he responded to comparatively large doses of trional, which relieved the insomnia at that time. The sequelæ, however, were such that this time I determined to use another hypnotic and selected veronal, hoping to overcome the vertigo and incoordination of movement which had followed administration of the trional. Knowing the patient thoroughly, I had no hesitation in prescribing veronal in ten-grain doses, to be repeated not oftener than once every three hours. He was instructed not to take more than three powders without telephone consultation.

Result of Veronal.—The following morning I was called to the telephone about 8 a. m. by his wife, who said: "My husband took ten of your powders last night; he is still sleeping." I at once went to the patient and found him in a deep sleep. Pupils were dilated, respiration was shallow, pulse 72; there was no cyanosis, but it was impossible to arouse him. At 2 p. m. the same condition existed. At 9 p. m. he was sleeping quietly and could not be aroused. His wife stated that he had swallowed a little coffee and broth. The kidneys had not acted.

Subsequent History.—On Monday morning the patient was still sleeping and apparently in the same condition as on the previous day. Urine had passed in slight quantities. Pupils were still dilated and the patient seemed to respond to shouting in ear, but did not respond to slapping or pinching. In the evening, pupils were still dilated, and sluggish reaction; pulse was somewhat weaker, temperature was 97.4 F. The surface of the body was moist. He had swallowed coffee and some eggnog during the day. During the evening he slept continuously, but toward night he became slightly restless, moving from one side of the bed to the other, and moaning at times.

Tuesday morning: The man had passed a quiet night; he responded to shouting in ear; pulse was full, 75; respiration was 20 and deeper. He awakened sufficiently to recognize his wife. At noon he was raised to a semi-recumbent position and partook of broth and malted milk. Urine examination showed specific gravity 1.022, acid reaction, no albumin, no sugar. No other symptoms appeared.

Tuesday evening: The patient recognized me. He complained of feeling tired and wanted to sleep; he slept continuously until Wednesday morning, when he had recovered sufficiently to complain of vertigo. He went to the bath-room when the nurse was not in attendance and fell on the floor; he was returned to bed and stayed there till Friday morning, when he got up after having passed a restful night.

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[5] Rev. de chir., Paris, 1905, xxxii, 467-478.
[6] Zentralbl. f. Chir., 1907, xxxiv, 1292.
[7] München. med. Wochenschr., 1907, liv, 1985.
[8] Jour. d. sc. méd. de Lille, 1907, T. 233.
[9] Jena, 1906, B. Vopelius.
[10] Jour. Laryng., 1907, xxii, 41-44.
[11] Znojemsky, J.: Casop. cesk. lekárn. v. Praze, 1907, xlvi, 10, 37, 74
[12] Arch. Middlesex Hosp., 1906, vii, 79-87.
[13] Beitr. z. klin. Chir., 1906, lii, 261-274.
[14] Gior. med. d. r. esercito, 1906, liv, 337-348.
[15] Practitioner, London, 1906, lxxvi, 228-242.
[16] Peritelioma all' ascella di un gatto n. ercolani, Pisa, 1905, x, 25, 47, 81.
[17] Deutsch. Ztschr. f. Chir., 1899, l, 348.
[18] Arch. f. Chir., 1901, lxlii, 348.
[19] Ann. Surg., September, 1907, 358.

The patient made an uninterrupted recovery after this and was in full possession of his faculties, and was attending to business the following Saturday.

I prescribed twelve powders, each containing 10 grains of veronal: the man took ten powders—100 grains of veronal—within a space of one hour. When he arrived home after purchasing the drug, he handed his wife the remaining two powders and requested that she administer them to him as he was already under the influence of the drug sufficiently to prevent his taking them himself. She refused to give them.

The only reason he gave for taking so many powders was that, after taking one in the drug store, he became muddled and thought that I had ordered one every five minutes.

608 Washington Arcade.

A CASE OF POLYCYTHEMIA.

TASKER HOWARD, M.D.
BROOKLYN, N. Y.

The following case is reported as a contribution to the data concerning essential polycythemia. It presents some unusual features, notably the absence of any splenic enlargement, the marked changes in the character of the red cells, and the degree of leucocytosis, though there can be no doubt as to the identity of the disease from which the patient was suffering.

I thank Dr. W. Gilman Thompson for the privilege of reporting the case.

Patient.—A. B., a woman, aged 47, married, and a native of the United States, came under observation at the Cornell University Medical College Dispensary.

History.—The family history was negative except for the fact that both of the patient's parents had died of apoplexy. She had always been a robust high-colored woman. Her menstrual periods habitually appeared every three weeks and lasted from seven to eight days Eight years previously she had had a polyarthritic attack which she described as "rheumatic gout."

Present Illness.—About 5 years before admission the patient began to suffer from dyspnea on exertion and occasional attacks of palpitation of the heart. She had had three attacks of pneumonia within the past three years, the last one, which confined her to bed for a month, occurring about a year before admission. Since that time the dyspnea had been constant and at times very severe. For the last six months she had noticed swelling of the legs and had had some pain about the heart. Within the last month she had suffered several transitory attacks of numbness and stiffness in the right arm and one attack which involved the left side of the face and neck and the left arm.

Examination.—On admission, June 20, 1907, the patient was observed to be a woman about five feet seven inches in height and weighing two hundred pounds. She was markedly dyspneic and her face was somewhat flushed, a condition which appeared to be due to a dilatation of the small vessels. There was no cyanosis. Cardiac dulness began at the third rib above and extended from one inch to the right of the right border of the sternum to the anterior axillary line on the left. The sounds were clear and strong. The radial arteries were a little stiff and the blood pressure was 190 mm. systolic and 120 mm. diastolic (Janeway). The lungs were slightly emphysematous but no râles were heard at this time or subsequently. The spleen was not demonstrably enlarged, and the abdomen and pelvis were normal so far as could be ascertained. The urine varied from 1010 to 1020 in specific gravity and contained a trace of albumin once in four examinations. No other pathologic elements were found. As in many cases of this type, there was a suggestion of a nephritic element, with the cardiac hypertrophy, the hypertension, and the albuminuria. It was certainly not the predominating element, however, as a study of the blood will show. The blood, which is recorded in detail in the table, differed from the picture usually seen in polycythemia in the degree of the leucocytosis and in the extent of the changes in the individual erythrocytes. The occurrence of an occasional erythroblast seemed to offer additional evidence of increased activity of the hemopoietic organs in this disease. A high percentage of polymorphonuclear cells is strikingly frequent in these cases.

Course of Disease.—In the course of several months' treatment, with the partial control of the dilatation of the heart and the arterial hypertension, the symptoms were very much ameliorated. They soon returned, however, and the patient was troubled until her death, Feb. 3, 1908, with progressive dyspnea and cough, attacks of numbness of the extremities, moderate edema, pain and fulness in the head, muscular cramps, and pain in the region of the heart. The pulse was about 100 throughout the course of observation, and although the temperature was not regularly taken, it was found to be between 99 and 100 on three occasions. Notwithstanding the extreme dyspnea, there were never any signs of pulmonary congestion. The possibility of a mediastinal growth pressing on the trachea and superior vena cava, as in a case reported by Reckzeh[1] was considered, although rendered unlikely by the morphology of the red cells. A comparison of the blood from the lower extremity and from the ear, however, proved that there was no localization of the polycythemia.

It has been suggested that the primary lesion of this disease may be an affection of the hemoglobin, whereby its oxygen-carrying power is reduced, the polycythemia being a compensatory factor. Several Dutch and English observers have recorded instances of blood dyscrasia

DETAILED RECORD OF THE BLOOD IN A CASE OF POLYCYTHEMIA

Date.	Hemoglobin	W. B. C.	R. B. C.	Index.	Erythroblasts.	Anisocytosis.*	Poikilocytosis.*	Polychromatophilia*	Polymorphonuclear.	Lymphocytes.	Large Mononuclear.	Transitionals.	Eosinophiles.	Mast Cells.	Stimulation Forms.
June 20, 1907...	75	26,000	6,076,000	0.61	2	++	++	++	75.75	10.75	4.0	8.5	1.0	..	....
June 27........	70	40,000	7,200,000	0.48	..	+++	+++	+++	86.	6.0	3.3	4.3	..	..	....
July 6........	90	26,000	7,200,000	0.62	..	++	++	++	81.	11.7	1.0	5.3	0.7	0.3	....
July 11........	90	18,000	7,552,000	0.59	..	+++	+++	....	78.	11.0	6.0	3.3	1.0	0 4	....
Aug. 1........	105	11,000	6,152,000	0.85	..	+	....	+	80.	7.3	0.7	6.3	1 0	..	2 cells.
Aug. 17........	110	13,000	5,124,000	1.07	..	++	++	....	70.	15 0	5.0	9.	1.0	..	3 cells.
Sept. 10........	130	8,000	7,896,000	0.82	..	++	+	+	75.3	18.0	0.	6.3	0.4	..	....
Oct. 8........	104	16,000	7,840,000	0.66	2	++	++	++	84.6	1.2	2.0	4.4	0.4	..	4 cells
Oct. 24 (from ear)	120	36,000	7,984,000	0.75	..	++	++	....	78.3	6 3	8.0	7.4	..	..	....
Oct. 24 (from toe)	120	14,000	7,752,000	0.77	..	++	++	....	81.6	6.0	6.4	4.0	0.6	1.4	....
Nov. 11......	110	18,000	8,670,000	0.63	..	+	+	....	84.6	3 0	9.4	2 0	0 6	.4	....
Jan. 6, 1908†	...	.....	7,464,000	...	..	.....	...	....	.	....	..	..	..	..	....
Jan. 26........	80	.....	8,600,000	0.46	..	....	....	...	..	...	..	.	..	..	....

* Degree of anisocytosis, poikilocytosis, and polychromatophilia are expressed thus: slight, +; moderate, ++; marked, +++.

† Few cells showing basic granulation.

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[1] Quoted by Anders, Am. Jour. Med. Sc., June, 1907.

characterized by cyanosis due to the occurrence of methemoglobin or sulphemoglobin (probably always the latter) in the blood, which is probably secondary to toxemia of intestinal origin.[2] At the suggestion of Dr. Thomas W. Hastings the blood of this patient was examined several times for these substances, but they were never found. The spleen was never perceptibly enlarged and the only cyanosis observed was the occasional appearance of a bluish tinge of the lips. Toward the end the skin assumed a slightly yellowish hue. The patient's death followed a paroxysm of dyspnea. Unfortunately an autopsy could not be obtained.

The laboratory findings, which represent the major part of the study of this case, were for the most part observed by the staff of the Clinical Laboratory at Cornell, under the direction of Dr. Hastings, and I take pleasure in acknowledging their helpful cooperation.

388 Clinton Street.

A CASE OF CEREBROSPINAL MENINGITIS WITH SOME UNUSUAL SYMPTOMS.

J. W. R. SMITH, M.D.
YALE, KY.

Patient.—B. A., colored, female, 25 years old, married, physical condition exceptionally good.

Previous History.—The patient has had three children and two or three miscarriages. The youngest child was two and a half years old and still nursing. Until the month before her attack the patient had not menstruated since the birth of her last child. The duration of flow and loss of blood at this menstruation were much less than usual. The patient was never seriously ill in her life. There is no family history of tuberculosis or syphilis.

Present Illness.—Sept. 23, 1906. The patient was apparently well and was away from home on a visit all day. During that night her husband was awakened by her restlessness and groans. After getting up he found her in a semiconscious condition and complaining of terrible pain in the back of her head. She vomited several times during the night. I was called in the next morning.

Examination.—The patient was still in a semicomatose state, but could talk intelligently when aroused and said that all of the pain was in the back of her head. Her pulse was 48 per minute; temperature, 99.4; tongue, slightly coated. There was terrific occipital headache; slight tenderness in this region, but none along the spine; slight systolic murmur. The pelvic examination was negative. The patient had been constipated for two days. Urinalysis was negative, with the exception of a slight increase of color and a trace of albumin. Both pupils were partially dilated, but reacted to light sluggishly.

Clinical Course.—When I saw the patient that afternoon consciousness was restored but memory was still defective. She never vomited after the first night. Headache and all other symptoms were unchanged. The following day a messenger reported that the patient's bowels had *moved freely* and that she was much better. So I did not see her again until two days later.

September 27: I was again called and found that the patient had suffered with considerable headache ever since my last visit, but this had become much worse that morning. She now had agonizing occipital headache, which radiated to the parietal, frontal and temporal regions. It was much worse on the right side. I gave her a hypodermic injection of morphin, gr. ¼, and atropin, gr. 1/150. In half an hour after this the patient's pulse rate had increased from 50 to 110 a minute. She had considerable soreness and stiffness in the back of her head, but none lower down the spine, and some pain *in her eyes, which was not increased by light. The patient* was not particularly sensitive to noise. The temperature was 99.6; the pulse 50, with good quality, the tongue slightly coated, the appetite fairly good, and the bowels open. The patient rested fairly well at night.

September 29: For two days she gradually grew worse; pain and tenderness slowly extended down the spine into the dorsal region and radiated into the right shoulder; there was no retraction of the head; the pulse had increased to 70.

September 30-October 3: The patient's mental condition was somewhat better, but *almost total paralysis* of both extremities, body and face had developed on the left side and partial paralysis of the tongue on the opposite side. Sensation, also, was much impaired on the left side. There was no strabismus. It was necessary to apply artificial heat almost continually to the left extremity below the knee. At this time the pulse was still 70, full and strong but a little irregular. During the next five days the patient's condition gradually grew worse. The temperature remained 99.4; the pulse 75, with good quality; and the appetite continued *good. The patient rested fairly well and her bowels moved* daily with enemas.

October 4-8: Partial paralysis developed in the patient's right arm and tinnitus in her left ear. On the following day this developed in the other ear also. For the next three days the patient's condition remained practically unchanged, except for her pulse, which had gradually increased to 88. Her temperature had fallen to normal and remained there for a few days then rose to 99.4 and stood at this for three or four days.

October 9-11: The patient's general condition was somewhat better; her headache was severe only at times; her mental condition clear, and her appetite better. From now on she continued to improve slowly; her pulse-rate had increased to 100. It now began to decrease slowly.

October 11-19: Slight motion returned in the patient's right arm and hand. One week later it returned in her left foot and leg.

October 20: Motion was now improving slowly in the patient's right arm and left leg; she could move her head a little; her bowels moved naturally for the first time. At this time she had severe headache for about two hours each day. All symptoms continued to improve slowly.

November 5: The patient began to sit up in bed, and ten days later was up in a chair.

November 17: Motion returned in the patient's left arm and hand: her headache and tinnitus were almost entirely gone; cramps still remained in her extremities. Some days she felt almost entirely well.

January 5, 1907: The patient was able to walk without any support and could flex her elbow and move her shoulder joint, but was unable to extend her elbow. Paralysis was gradually disappearing and tinnitus was noticed only when the patient first got up in the morning. She felt almost as well as before her illness. Two months later she was doing all her housework.

November 17, 1907: The patient continued in good condition until this date, when she woke up at midnight with a headache and vertigo. About ten minutes later she had a convulsion, which lasted for a few minutes. During the next two hours she had eight more convulsions and vomited once *or twice. I saw her soon after the last convulsion and found* her semicomatose, with a bad headache. Her pulse was 80 and her temperature normal. She had begun menstruating the day before for the first time in six months. She slept fairly well for the rest of the night and the next morning was much better. In a few days she was as well as usual.

I lost sight of her eighteen months after the beginning of her attack. At this time she still showed slight paralysis in the left side of her face, some in her left leg and a good deal in her left arm. Flexion was still much better than extension in this arm.

Diagnosis.—Drs. Compton and Magruder, of Charlottesville, Va., saw the patient with me. We were never sure whether it was a case of acute cerebrospinal meningitis or acute tuberculous meningitis.

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[2] West and Clarke: Lancet, London, Feb. 2, 1907.

Treatment.—Treatment consisted of the following: An initial cathartic; an enema once a day; ice-cap to head; hypodermic injection of morphin for headache, liquid diet until improvement set in; careful nursing, protoiodid of mercury and iodid of potash for ten days or two weeks and strychnin during convalescence.

All medications, except the anodyne, seemed to have very little effect on her. Careful nursing with a good digestion were apparently responsible for her recovery.

TOXEMIA IN THE NEW-BORN SIMULATING CEREBRAL HEMORRHAGE.

JAMES M. DOWNEY.
BROOKLYN.

It would seem as if the condition of toxemia or eclampsia in the new-born had not been given the careful study and consideration it deserves. The difficulties of obtaining a specimen of urine and measuring the amount voided are the factors chiefly responsible for this neglect.

There is, of course, a physiologic albuminuria during the first week or so of life, but the extent of this albuminuria and the limit of the amount of albumin present normally are not definitely determined.

The report of a case on my service at St. Mary's Maternity Hospital may be of interest in this connection. The history, taken by Dr. Hart, is as follows:

Pregnancy.—Mrs. W. came into the hospital on September 23, aged 38 years, x-gravida, pregnant at term. According to her statement, she had had no convulsions at any of her previous labors, but at the time of the last three or four she had been very nervous and her feet and ankles had swollen up. On examination at admission there was considerable edema with pitting of feet and ankles. There was some puffiness of the face, especially beneath the eyes, and she was in a nervous restless condition. Her urine was highly colored, sp. gr. 1024, alkaline, and there was a heavy coagulation of albumin. She was threatened with eclampsia and was put on preventive treatment.

Delivery.—On September 29 the labor came on. At 6 a. m. on the following morning, September 30, the membranes ruptured and the cord came down. When the house physician arrived at 6:45 a. m. the head of the fetus was on the perineum and the cord was prolapsed and was being compressed by the head. There was no pulsation in it. The head was immediately delivered and the child extracted as rapidly as possible. It was bluish-white and respirations were absent, though the heart was beating strongly and visibly. The cord was clamped and cut at once and resuscitation methods tried, namely, hot and cold immersion, the Schultz method, blowing into lungs, etc. Thirty minutes passed before there was any sign of respiration, the heart continuing to beat visibly during this time. Then there was a gasp which was not repeated for some little time. Forty-five minutes had elapsed, all told, before the child was breathing at all well. Respirations were rapid, shallow and feeble. The child was surrounded by hot-water bags and kept breathing by flagellation.

Condition of Infant.—On October 1, the day after birth, the child was very bright and did not sleep. It was breathing a good deal better, still rapidly, but with more regularity and depth. A slight twitch was noticed about its eyes and mouth, and both thumbs were turned into the palms. No urine had been voided since birth as far as the nurse knew. The twitchings became more marked toward evening and the child was restless and wide awake. It did not have strength enough to cry, but occasionally would give a little fretful whine. On October 2 the twitchings had assumed the character of a convulsive seizure. The head was turned to the right and there was nystagmus and strabismus. The seizure seemed to begin in the right hand and pass upward as in Jacksonian epilepsy. There was at first a fine tremor of the muscles of the eye and about the mouth and the right corner of the mouth was drawn downward. The seizure lasted only about a minute and then passed off. At first it came every half-hour, but toward evening it became more marked and occurred about every fifteen minutes. Because of the apparent localization of the spasm to the right side, it was thought, taking into consideration the rough handling to which the child had been subjected at birth, that the child probably had a hemorrhage, slight in amount, over the left motor area of the brain, causing irritation of that region without paralysis. Operative measures for relief were considered. I saw the child in the evening of October 3. The convulsions were very well marked. The head was turned strongly to the right and there was strabismus; twitchings began in all of the facial muscles and at the same time the spasm began in hand and arm, seeming to pass upward. After about thirty seconds the eyes were rolled downward and then a little to the left and the convulsion apparently passed over to the left side in the hand and arm. This lasted about fifteen seconds and then the spasm passed off. I thought it advisable to examine the urine before proceeding with surgical means of relief.

Treatment.—After a good deal of difficulty in passing a catheter a very small quantity of urine was obtained, about half a dram. This was examined and found to contain a very heavy trace of albumin. The child was immediately given a mustard bath and hot packs and hot rectal irrigations were ordered. Five drops of acetate, bicarbonate and citrate of potassium mixture and five drops of sweet spirits of nitre were also given every three hours and small doses of calomel, one-tenth of a grain every two hours for three doses. After the mustard bath the child perspired freely, and shortly afterward one ounce of urine was voided. The convulsions continued, but at much longer intervals, and during the night only about four were noticed. On the following day the child had convulsions, coming about every hour, and only half an ounce of urine passed, unless some may have been voided during defecation. Medication was continued, and the child was perspiring freely in response to packs.

Later Course.—The next morning, October 4, the child fell into a long natural sleep and slept most of the morning. It had about two convulsions during the morning. Still very little urine was being passed—only half a dram of dark-colored urine at 12 o'clock. During the afternoon there were no convulsions and more urine was being passed; the diapers were wet, but measurement of exact amount was impossible. During the night of October 4 and on October 5 the child had no convulsions at all, acted and slept more naturally, cried more vigorously when slapped and was voiding more urine. In the afternoon another specimen was obtained and on examination showed a very faint trace of albumin. From this time on the child had no convulsions and took its nourishment from the breast. Before this time child had been fed from a spoon with mother's milk.

Some interesting points come up for consideration:

1. Was the albuminuria and suppression in this case due to an acute nephritis or to acute renal congestion caused by the hot and cold immersion, exposure, and violent carrying out of the Schultz method in attempts at resuscitation?

2. Was it caused by an excess of urea and other excrementitious substances in the blood of the child as it passed from the mother, which, by a toxic action on the renal epithelium, was responsible for the convulsions and the presence of albumin in the urine? The asphyxia due to the pressure of the cord must have also been a factor; to what extent?

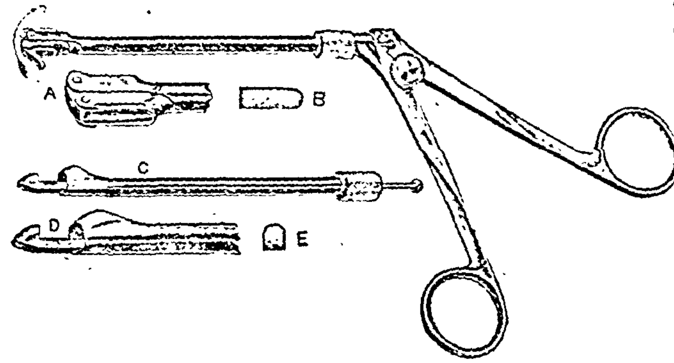
3. If the answer be in favor of the latter view, is there always albuminuria and a diminution of the amount of urea and excrementitious products in the urine of new-born children of eclamptic mothers?

381 Clinton Street.

REVERSE ANTRUM FORCEPS WITH SPHENOID PUNCH ATTACHMENT.

LOUIS OSTROM, M.D.
ROCK ISLAND, ILL.

The illustration shows a new model of my reverse antrum forceps with sphenoid punch attachment. It has great strength and universal motion. By actual comparison, it will be found smaller than many other common intranasal instruments, and yet statements are made that it is too large, and also that it is not long enough. These statements imply ignorance of intranasal anatomic relationship. The first model[1] will give two inches more than is needed even if it is put back to the pterygoid process. One can even insert the blade into the eustachian tube or into the sphenoid sinus and still have plenty of room for the handle. The new model is long enough, strong enough, and small enough to do all and more than is claimed for it.



Reverse antrum forceps with sphenoid punch attachment. A blade of forceps closed; B, representation of bite, one-half actual size; C, sphenoid punch; D and E, actual size.

A MODIFIED CRILE TRANSFUSION CANULA.

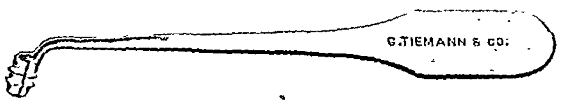
LEO BUERGER, M.D.
Assistant Adjunct Surgeon and Associate in Surgical Pathology, Mt Sinai Hospital.
NEW YORK.

In employing the Crile transfusion canula we sometimes encounter difficulty in telescoping the artery over the vein. The relatively small size of the artery makes it necessary at times to manipulate for a considerable length of time before we can successfully reunite the two. I have made certain changes in the Crile instrument which I think facilitate the operative procedure.

The modified transfusion canula consists of a ring which has the shape of a truncated cone and which is carried on a rather firm handle, both canula and handle being cut out of a single piece of German silver. A reference to the accompanying illustration will show that the canula is cleft lengthwise by a slit which makes it possible to alter permanently the diameter of the instrument and also to cause a temporary diminution in its size, if such be desired. The metal is made as thin as possible so that the difference in external and internal dimension will be minimal. The canula is provided with two encircling ridges, the apical ridge being situated a short distance from the upper end, leaving that portion of the canula which receives the artery as small as possible. Another basal ridge lies behind the one just described.

The technic of its use is as follows: After the vein has been isolated and its adventitia has been stripped off, three fine guide sutures are introduced and the vessel pulled through the canula, the guide sutures first passing through the slit and then into the lumen of the canula. The vein is then cuffed and tied behind the basal ridge. The artery is then pulled over, either by forceps or by sutures, and tied behind the apical ridge.

The following are the advantages of this instrument: First, the handle makes the instrument more secure: second, the conical shape, together with the absence of a ridge at the end, facilitates telescoping; third, the slit allows of change in the size of the canula, so that two canulæ will suffice for practically all cases; and, fourth, it permits of an easy threading of the canula with the vein.



A modified Crile transfusion canula.

In infants the small size of the superficial veins of the upper and lower extremities makes the anastomosis with even the smallest canula very difficult to carry out. I suggest the use of the external jugular vein when the arm or leg veins appear to be of insufficient caliber.

Therapeutics

TYPHOID FEVER.

As prevention is the highest aim in medicine, and the greatest opportunity to prevent the spread of disease is at the bedside of the patient afflicted with that disease, we may well discuss the methods of infection and the means of preventing the infection of others as part of the therapeutical care of the patient. Hardly a disease is so preventable, and hardly a disease so readily causes the infection of others, as typhoid fever.

Dr. F. S. Hammond, Trenton, N. J., in the *Journal of the Medical Society of New Jersey* (August, 1908), presents the etiology and the necessity for the proper bedside preventive care of this disease in such an able manner as to deserve the careful consideration of all therapeuticians. He directs attention to the accepted fact that typhoid fever is more than a local infection, is really a septicemia, as the blood and fluids of the body contain the specific bacillus, as do the rose spots of the skin, the spleen, the urine and as may the gall bladder, the middle ear, the bronchi and the lymph nodes. The bacilli have been found in the blood as early as the fourth day and in 100 per cent. of patient during the first week, and they have been isolated from the urine in 25 per cent. of all cases. Typhoid bacilli have also been found in the sputum expectorated from the bronchi.

While typical typhoid fever always has lesions in the intestines, typhoid infection can occur without such lesions, and also, typhoid lesions in the intestines may be present and still no typical typhoid fever occur. Such patients then become unsuspected typhoid carriers and distributors, possibly not only by their bowel and urinary excreta, but by any mucous or serous secretion or discharge. Bacteriologic examination has shown that many intestinal fermentations, intestinal intoxications, so-called malarial attacks, even bilious attacks and recurrent unexplained feverish attacks, are really due to typhoid infection. Certainly in any unexplained continued fever, even if short-lived, the Widal test should be made, and, if necessary, the blood and urine bacteriologically examined, that typhoid infection may be excluded. Unfortunately, a patient, previous to actually becoming ill from typhoid infection, may have distributed typhoid bacilli. Such distribution is unavoidable, but the sooner it is recognized that a patient who has recovered from typhoid fever may have typhoid bacilli in his feces for some weeks and in his urine for some months, and that during such periods sterilization of these excreta should be continued, the better for his environment and the community, and the more sure the prevention of typhoid epidemics.

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[1] Laryngoscope, Feb. 10, 1907.

The sources of infection are most frequent in the following order: By water, by milk, by oysters, by clams (perhaps by lobsters), by flies, by direct contact (inexcusable lack of cleanliness), and by ice. While the length of time that typhoid bacilli are able to live in fecal matter is limited, it is much longer when they are mixed with earth, and much longer still when passed by the urine than when in fecal matter. In running water, whether foul or otherwise pure, they will live only for a certain length of time, but that length of time varies, and deposits on banks and in water sheds, where they live longer in the earth, can reinfect water from time to time. Hence, there is no definite period when a given pollution will become innocuous.

In milk, typhoid bacilli increase in numbers rapidly, and do not tend to die out as they do in water, consequently a source of milk infection, if not eradicated, will run on indefinitely.

Shell fish may all pick up the typhoid bacilli if subjected to typhoid contaminated water, and it has been shown that rapid cooking of typhoid infected oysters and clams may not kill these bacilli. Consequently, as well as raw oysters and raw clams, steamed clams and rapidly stewed oysters may cause a typhoid infection. Of course, the maintenance of oysters in water which is subjected to possible contamination should be prohibited.

Flies are bacteria carriers *par excellence*, and should be excluded by screens from every sick room, and certainly from typhoid, tuberculous and pneumonic patients. The possibility of flies attaining access to the stools of typhoid patients is negligence absolutely inexcusable.

While freezing does not kill typhoid bacilli, typhoid infection from polluted ice is perhaps rare, but it certainly is not esthetic to use ice for drinking purposes which has been taken from an insanitary pond. Even distilled water ice may become contaminated from careless handling. Consequently the ice supply of a city should be as carefully regulated as are the water and milk supplies.

As it has been shown that various excreta of the body which contain typhoid bacilli may dry in the air, and the bacilli be wafted in dust and thus cause infection, there can no longer be any excuse for not properly disinfecting the rooms where a typhoid patient has been and of properly fumigating or boiling all the bed clothing, as well as the personal clothing, that has come in contact with the patient.

Efficient rules for the prevention of the infection of others from the typhoid patient are as follows:

1. The patient should be in a large, light room, isolated, if possible.

2. There should be adequate ventilation, and the temperature should, if possible, be kept about 60 F.

3. The room should contain the minimum amount of furniture.

4. There should be a minimum number of attendants, and no visitations, except by one or two of the nearest members of the family, and the permitted frequency of these visitations depends on the severity of the sickness.

5. The position of the patient should be frequently changed, and, if available, two single beds are better than one, the patient being moved from one to the other by being lifted on a sheet.

6. The patient should rarely be awakened, and medication, food and other disturbances should not be too frequent. Also, all that must be done for the patient should be done at one time, so as to allow the longest possible periods of complete rest.

7. There should be a minimum of clothing on the patient (a short night dress or shirt is sufficient).

8. So far as feasible, the same things should be done at the same time each day.

9. The clothing of the attendants and nurses must be wash goods.

10. The face and hands of the patient must be kept immaculately clean, and the lips, teeth, gums and tongue should be kept as clean as possible. A clean, non-irritating, simple mouth wash is the liquor antisepticus alkalinus of the National Formulary. If a stronger solution is needed, the liquor antisepticus of the U. S. P. may be used, and this should be diluted with an equal part of warm water. Dilute solutions of peroxid of hydrogen, as one part of the official aqua hydrogenii dioxidi to three parts of warm water may be used. If fissures or cracks occur on the tongue or lips, an occasional application of stick nitrate of silver is needed.

11. The nurses' hands and parts of the patient's body that become soiled, possibly with germs of infection, should be cleansed with a mild antiseptic lotion, as a formaldehyd solution of two parts of the official liquor formaldehydi to ninety-eight parts of warm water. The door knobs should also be cleansed with this or a stronger solution.

The nurse should have ready at hand a quart or more of the official liquor formaldehydi and a pint measuring glass, that at any time she may make a dilution of the strength required.

12. Any throat or bronchial discharges should best be expectorated into ordinary paper sputum cups, which can be readily burned. If the patient is too weak to spit thus, small pieces of cheesecloth may be used, and the same is true for the nasal discharges. These pieces of cheesecloth should be dropped into a paper bag which hangs handy in the room. This paper bag or the paper sputum cups should be burned and new ones used daily. If other receptacles or clothing become contaminated with sputum, they should be placed in solutions of 2 per cent. formaldehyd (5 parts of liquor formaldehydi to 95 parts of water). Such a solution will sterilize sputum in five minutes.

13. The urine should be sterilized as follows: Add a thoroughly dissolved two-grain tablet of bichlorid of mercury to each evacuated urine. Such urine will be sterile in five minutes. Or, add to the urine an equal bulk of 4 per cent. formaldehyd (10 parts of liquor formaldehydi to 90 parts of water). The urine will be sterile in five minutes.

Unless salol (phenylis salicylas) is being used as a bowel antiseptic, it is advisable as a urinary antiseptic to administer 0.50 gram of hexamethylenamin (urotropin) in plenty of water, three times a day for two consecutive days in each week, not only during the fever, but for some weeks after convalescence is completed. Such treatment should tend finally to inhibit the growth or persistence of typhoid bacilli in the urinary organs.

14. The stools should be passed into a bed pan which contains a 4 per cent. solution of formaldehyd (10 parts of liquor formaldehydi to 90 parts of water). After the stool the contents of the bed pan should be emptied into a china or glass receptacle containing a considerable amount of formaldehyd solution of the above strength and the bed pan thoroughly cleansed with more of the formaldehyd solution. All solid or semisolid fecal matter must have been broken up at least ten minutes before the contents of the vessel or receptacle is emptied into a closet. The buttocks should be washed with warm water and cotton or gauze and then cleansed with alcohol. All cloths, gauze or cotton used for cleansing purposes should be burned.

15. The patient's clothing and all bed clothes should be placed in a washtub in an adjoining room or bath room and allowed to soak for ten minutes in a 2 per cent. solution of formaldehyd (5 parts of liquor formaldehydi to 95 parts of water). The clothing is then ready for the laundry, and will carry no infection.

16. All cups, plates, forks and spoons must be sterilized before leaving the patient's or the adjoining room by being placed either in boiling water or in a 2 per cent. formaldehyd solution.

17. Before the nurse eats her own meals, she should put on a clean apron and thoroughly cleanse her face and hands.

18. Screens or properly adjusted mosquito netting should prevent flies from reaching the patient's room.

If the odor of formaldehyd is disagreeable, or by accident becomes too concentrated in the sick room, aqua ammoniæ may be sprinkled occasionally about the floor. It forms such a combination with formaldehyd vapor as to remove the odor and prevent irritation of the nose and throat from the gas.

There are very few hands the skin of which will not become more or less damaged by such continued use of antiseptic solutions as the care of a typhoid patient entails. A pair of rubber gloves, kept in a weak solution of formaldehyd and used by the nurse when handling vessels containing infected material, will do much to relieve this disagreeable feature.

The Atypical and Large Mononuclear Cells of the Blood.—Charles A. Elliott, Chicago (*Quar. Bull. Northwestern Univ. Med Sch.*, September 1908), states that in differential counting a number of cells of different origins are counted together in the group of "large lymphocytes." This term does not apply to a cell entity, but to a group, the members of which have more or less similar tintorial and morphologic qualities which make it impossible accurately to differentiate them in stained smears. Certain cell forms in this group are fairly well identified, including Ehrlich'es large mononuclear leucocyte, large and atypical lymphocytes, "lymph schotton," plasma cells, "markzellen," and others, but that there are many other unidentified cells counted in this group seems probable to the author. Until these cells can be definitely distinguished it seems rational to group them together as "large lymphocytes," but with the understanding that it is a miscellaneous group, including cells of widely different origins, and of entirely different significance.

New and Nonofficial Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NONOFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on one of the advertising pages of THE JOURNAL *in the first issue of each month; for example, Oct. 3, 1908, page 30.)*

(Continued from Vol. L, page 1039.)

ADRIN. The name (word-mark) used for suprarenal alkaloid by H. K. Mulford Co., Philadelphia. It is prepared by the method of Abel (Ber. d. chem. Gess., vol. 36, p. 1839, Methode II). It is not marketed in its pure form. All the preparations contain boric acid.

U. S. trademark No. 41,916.

Adrin Solution, 1:500. Solution of Epinephrin Hydrate, 1:500, Mulford. A solution of adrin, 1 to 500, in normal salt solution, containing boric acid, 0.25 per cent., and also small quantities of sulphite and chloroform.

Adrin Tablets, 0.001 Gm. (1/65 grain). Tablets of epinephrin hydrate, 0.001 Gm. (1/65 grain), Mulford. Each tablet contains adrin, 0.001 Gm. (1/65 grain); sodium chloride, 0.007 Gm. (1/10 grain); boric acid, 0.002 Gm. (1/33 grain). A 1:1,000 solution is prepared by dissolving a tablet in 1 Cc. (16 minims of water). The tablets can be used hypodermically.

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Adrin Suppositories. Suppositories of Epinephrin Hydrate, Mulford. Each suppository contains adrin 0.0027 Gm. (1/25 grain) and oil of theobroma, 1.23 Gm. (19 grains).

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DRY PEPTONOIDS.—Dry Peptonoids is stated to contain 40 per cent. of proteins and 53 per cent. of carbohydrates.

It is said to be made from beef, milk and wheat, by digesting the protein with pepsin and pancreatin and the carbohydrates with pancreatin and malt diastase. The resultant solutions are assayed, mixed in proper proportions and, the acid used in the digestion having been neutralized, concentrated in vacuo, sterilized, dried and brought to uniform composition by the addition of milk sugar.

It consists of light brown granules of pleasant odor and taste and is very soluble in water and other fluid media.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Dry Peptonoids corresponds to approximately 2,000 calories, of which 870 are due to protein and 1,130 to carbohydrates and fat. It is said to be especially useful for nutrient enemata.

Dosage. For an adult 8 to 16 Gm. (¼ to ½ ounce), taken in water, milk, wine, broths, soups, etc., also in gruels, in which case it should first be dissolved in a small quantity of water.

Manufactured by the Arlington Chemical Co., Yonkers, N. Y.
U. S. trademark, Oct. 17, 1882

(To be continued.)

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[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 10, 1908.

STREPTOCOCCUS INFECTION OF THE INTESTINAL TRACT.

Few problems are more complex than the etiology of the gastrointestinal infections in children. A few years ago attention was directed chiefly to the relation of bacilli of the dysentery type to gastrointestinal diseases, and many interesting results were obtained. The problem, however, was by no means solved and many clinical facts remained unexplained. More recently attention has been given to the occurrence of streptococci in the intestines and their probable relationship to certain forms of enteritis in children.

Jehle[1] brings together much of the work done on this subject in an exhaustive paper in which he discusses streptococcal enteritis in children and the occurrence of streptococci in milk. We note that Petruschky and Kriebel conclude from their investigations that much infantile diarrhea is due to streptococci in milk, and the work of Escherich indicates a streptococcus infection as the cause of many cases of enteritis. The work of Heinemann, Harris, Kruse, Pennington and Roberts and others establishes clearly the frequent occurrence of streptococci in milk. These organisms may appear in milk from cows showing no signs of infection of the udder and they may not be pathogenic to animals. On the other hand, they are often encountered in the milk of animals that show some acute infection, usually in the mammary gland, and now they may possess pathogenic properties for animals and cause severe illness in children and even in adults using the milk. The necessity of properly examining both the animals and the milk for the purpose of detecting pathogenic streptococci is consequently obvious.

Jehle finds in an extensive series of both epidemic and sporadic diarrhea that streptococci commonly occur in the stools. He calls particular attention to the use of Gram's stain in making the diagnosis. This simple method, while, of course, not infallible, is sufficiently reliable to be of great value in diagnosis and at the same time it is practicable for physicians doing routine work. Clinically cases of streptococcal enteritis are characterized by violent symptoms, and while more often met with in the summer months, may not infrequently occur during the winter also. Often streptococci are found in the blood and in severe cases they are almost always present in the urine. Not infrequently severe nephritis with edema results, and this may be further complicated by streptococcal cystitis and pyelitis. Another serious complication is a diffuse purulent peritonitis.

Agglutination experiments show the development of specific agglutinins. The blood serum of patients agglutinates in many cases the autogenous organisms and also intestinal streptococci from other cases, and to a certain extent other strains of streptococci. The streptococci are uninfluenced by normal serum or serum from other diseases. The intestinal streptococci appear all to be closely related and morphologically they can not be differentiated from other forms of streptococci. But, culturally and by means of immune serum, marked differences may be brought out.

Another point to which Jehle calls attention and which has been pointed out by others, especially St. John and Pennington,[2] is the loss of the restraining power possessed by raw milk for various bacteria when heated for the purpose of being pasteurized or sterilized. Such milk should be most scrupulously guarded against contamination because of its lessened germicidal power and should also be kept under conditions prohibiting the growth of bacteria already present in spore forms. This fact is commonly disregarded by the public and especially by those who handle dairy supplies. The milk problem consequently must be in the mind of the physician at all times.

INDUSTRIAL REGULATION IN INTEREST OF PUBLIC HEALTH.

In discussions of industrial reforms of a sanitary nature, which, in addition to the good effect they are aimed to have on public health, often bring with them also far-reaching economic disturbances, it is the peculiar duty of physicians and sanitarians to point out the extent to which particular reforms are indicated by the present state of scientific knowledge of the problems involved. Unless reforms and regulations of this general character are based on sound knowledge, it may be assumed fairly that, if carried into effect, they will result in undue economic disturbance and loss.

Thus, in connection with all efforts looking to better regulation and inspection of the slaughter of animals for food and of our packing industries, it would be well if medical men, whose word naturally must have great weight, would bear in mind that the diseases that are known to be communicated to man in the meat of animals are comparatively few. Probably the most important disease so communicated is trichinosis, and that possibly only when raw or half-cooked pork is eaten. According to numerous observations, especially in Germany, cattle may suffer from infections with bacilli of the paratyphoid or paracolon group and the meat of such animals may cause forms of intoxication and infection in human beings; so far there is a singular lack of reports of disease communicated in this way in this country or suspected of being so communicated. Nevertheless, communication of disease to man in this way should be guarded against most carefully.

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[1] Jahrb. f. Kinderheilk., 1907, 65, p. 40.

[2] Jour. Infect. Dis., 1907, iv, p. 647.

As regards the communicability of tuberculosis to human beings from the flesh of cattle and hogs, it now is generally known that the weight of expert opinion is definitely against the view that there is much danger to be feared on this score. The reasons for this belief, which is growing and which already has resulted in putting a damper on the wholesale destruction of tuberculin-reacting cattle, have been pointed out in these columns from time to time. In the absence of tuberculous invasion of muscle, the flesh of tuberculous animals in which the disease is localized probably is not unfit for human food. To demand wholesale condemnation of all tuberculous animals, as a few alarmists have done, is consequently not in harmony with actual knowledge as to the dangers to man of animal tuberculosis.

From the bacteriologic point of view, there can be no objection to the rendition of the fats of condemned animals into lard because the rendering process undoubtedly destroys all known forms of infective microbes. To destroy valuable materials for sentimental and esthetic reasons takes the discussion of such questions beyond the pale of scientific sanitation. It may be pointed out, however, that if we were to review the ultimate sources of chemicals and other substances used in our food we would find that in many cases these sources might leave much to be desired from the point of view of esthetic associations. Pure chemicals, however, are pure no less because they originally came from sources regarded in a certain sense as impure.

Again, to demand that poultry and fowls in general must be drawn before being placed in cold storage, so long as it has not been shown that the storage of undrawn poultry is harmful because the poultry is undrawn and so long as it is claimed on good grounds that storage of drawn poultry is impracticable, would seem to be somewhat hasty and perhaps premature. Industrial regulation in the interest of public health must have a firmer basis than loose notions and suppositions. What is needed in the case of cold storage is careful scientific study of the main problems now apparent, namely, the nutritive value and the wholesomeness of foods subjected to this mode of preservation. Such studies we understand are well under way. In this case, the question of communicable diseases hardly needs to be considered, so far as we know, and the situation does not at all appear to be so critical but that the underlying problems may receive adequate consideration.

If we pay due regard to established knowledge, industrial regulation for public health's sake will be less likely to overshoot the mark and result in waste not only of valuable products, but also of regulative energy.

THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Another International Congress on Tuberculosis has become history and as a most noteworthy feature the fact will be noted that it was free from those sensational features which made the London and Paris congresses famous; a careful censorship kept down the exploitation of "startling discoveries" by the uninitiated to legitimate limits and the "filtrate" of the congressional deliberations which has reached the public will undoubtedly exert a beneficial effect in furthering a much better and clearer understanding of a subject in which the public is so vitally interested. With the ever-growing attention of the public to questions of private and public hygiene this point is of no small consequence and it may be justly said that this congress has achieved signal success in this direction. The campaign of education, which has become international in extent, has had its effect and the thousands who crowded the exhibit halls and meetings showed a much better understanding of the various features of the problem, barring almost entirely the morbidly curious habitué of medical congresses.

At the meetings of those sections composed very largely of lay members, viz., Sections V and VI, in which were discussed the hygienic, social, industrial and economic aspects of tuberculosis, as well as its control by states and municipalities, great unanimity as to fundamental requirements and measures was apparent. A more thorough discussion of these subjects by authorities from abroad and this country has never taken place and excellent results from it may be confidently expected. There was little of the sentimental or melodramatic in these deliberations, a tone so prevalent in the earlier days of the crusade against the "white plague." Men and women were present who by practical experience have found that the fight against tuberculosis is not only a fight against its infective cause, but also against a great variety of social and hygienic deficiencies, due more or less to the all-absorbing struggle for commercial or other supremacy. The mobilization of social forces, urged at the Paris congress, has taken place and these meetings showed that it has become well organized and powerful.

It is impossible to review the various contributions, most of which will deserve careful scrutiny, but attention may be called to the most salient features. More strongly than ever the economic aspect of tuberculosis was demonstrated. Exact investigations showed the real meaning of this disease as a tremendous burden on civilized society, to be measured not only by the number of the killed, but especially by that of the disabled, promoting poverty and misery to individuals and to families. Adverse industrial conditions were scrutinized and reforms reported on or proposed, but very correctly the principal attention was focussed on the influence of housing conditions in the spread of the disease. Many valuable suggestions on the latter subject will be found in the reports of what was said. A significant feature was the fact that a number of architects had been delegated from abroad to take part in the proceedings, showing the increasing appreciation of this phase of the problem.

In the discussion of measures of social control of tuberculosis the importance of popular education on hygienic and sanitary lines was again insisted on, but the best means by which such can be accomplished have gradually become modified. The direct and forceful education of those most in need of it, of the consumptive invalid, his wife, his children, in their home, in advice stations and dispensaries, has taken the place very largely of the public propaganda through pamphlets and lectures, which, though not to be abandoned, can exert only a limited influence. The great advance seems to be in the realization that not only the consumptive individual merits attention, but particularly the other members of the family who have been directly exposed to infection and to those same adverse environments which promoted the disease in one in their midst. That there is here a great field for the nurses and that it was fully appreciated by them was clearly evident in the nurses' meeting in Section V.

Some slight disagreement was noticeable in the discussion on the advisability of compulsory notification of cases of tuberculosis. The excellent results achieved, however, by this system, under the direction of the New York Department of Health, caused not only a very notable appreciation of this work, but also gave an impetus toward its introduction elsewhere. One point which must have impressed all was that the mere passing of laws forbidding indiscriminate spitting was wholly inadequate and that whatever other measures were instituted by law, agencies and stations had to be provided to enforce them and make them effective.

If there was an atmosphere of mutual understanding and efficient cooperation noticeable in these deliberations of the "social army" this can not be said to be the case of the sections dealing with the medical and technical sides of the question. Here every thesis found its antithesis and authorities of world fame clashed on many points. This state of affairs is apt to be confusing to one not intimately acquainted with the intricate details of the various technical problems. It must be said, however, that in spite of these disagreements progress was manifested along all lines and that the axiom of the patients suffering when "doctors disagree" can not be maintained; on the contrary, in those fields of management and treatment of the tuberculous signal success was reported and the methods by which this was accomplished can be considered more or less standardized all over the world. In this direction this congress probably has done more than either of the two preceding it in crystallizing the views of the world's best workers on questions of treatment, particularly the hygienic, home and sanatorium management. Also the urgent necessity of institutions for the care of advanced cases, especially in larger cities, and of the provision of day and night camps for the incipient cases in patients who are able to perform a certain amount of work for their support, was recognized on all sides, and the reports of such existing institutions were full of suggestive details. A modification of the views on the value of sanatoria seems to be gradually taking place. The sanatorium does not, apparently, occupy the center of the stage, though it is conceded to be a most important link in the chain of therapeutic endeavors. The tendency seems to be, first of all, to build cheaper and so make possible the admission of greater numbers and also not to confine it exclusively to the earliest cases which can suitably be taken care of in more temporary structures. The agitation against the sanatorium, which has become quite loud of late, particularly in Germany, can not be said to have found an echo in this congress. The advantages and limitations of sanatorium management were thoroughly discussed, the former, however, being insisted on as paramount.

In the discussion of the details of sanatorium management it was particularly interesting to note how more and more the views of the earliest phthisiotherapists, Sydenham of the older and Brehmer of the later schools, are again coming to their rights. From England especially came a strong and well substantiated plea for the introduction of graduated labor into the régime of sanatorium patients. The rest cure of the German openair "Liegehalle" has surely received thereby a decisive blow, and its exclusive application so widely practiced in sanatoria will of necessity have to be revised. Useful outdoor work carefully supervised will have to become the feature of every modern sanatorium.

The specific treatment of the disease by means of tuberculins or serums can not be said to have made such progress as to introduce it into the armamentarium of the general practitioner. There are too many points of detail yet unsettled and we will have to look forward as heretofore to the results obtained in sanatoria, hospitals and laboratories, for future guidance. Some results were reported which are decidedly encouraging and the subject of immunity and immunization will maintain the prominent place it has justly occupied during the past years in discussions on tuberculosis.

Great prominence was given to the discussion of treatment at home and in dispensaries. The perfect feasibility and practicability was shown of carrying out sanatorium measures when for some reason or other the removal of a patient to a special institution is neither possible nor advisable. First practiced in Scotland and France, it has become modified in this country and must be considered as one of the most important agencies in the fight with the disease and easy of introduction into every community.

Progress, although not full agreement, was noted in regard to the newer methods of diagnosis, especially by means of the integumental reactions to tuberculin. These methods, bearing all the features of real advance of knowledge, will, however, have to be studied more thoroughly, and particularly, on the basis of uniform technic, before they can become of such assistance to the practitioner as is claimed for them by their enthusiastic advocates. It seems very likely, however, that they will supplant the diagnostic tuberculin injection. The very important claim made for them, that prognostic inferences can be drawn from a positive or negative result, is not fully substantiated, but there is sufficient reason for the hope of its ultimate fulfillment.

Mention must also be made of the work of Sections III and IV on the surgical aspects of the disease and on tuberculosis in children. The International Surgical Congress in Brussels undoubtedly prevented many from attending this section; particularly missed were the French surgeons who in their sea-side sanatoria have developed a technic, both operative and hygienic, worthy of more general imitation elsewhere. Nevertheless much practical work was presented to this section, work that indicates progress in the management of the surgical phases of tuberculosis.

The section on tuberculosis in children brought out the increasing interest in the prevention and treatment of tuberculosis in the younger generation. This subject, however, was by no means treated as fully as its importance demands.

Here also were missed the reports on the excellent work being done in France and Germany, where the hygienic provisions for children have reached a very high degree of practical efficiency. Some notable contributions, however, show that this work is being actively approached in this as well as in the countries mentioned.

The deliberations in Section I on pathology and bacteriology proved to be perhaps the most interesting. Here pure science fought the principal battles of the congress, and the victims have not yet been counted nor the strategic and tactical advantages gained or lost been summed up. Flügge tells in his recent book of a colleague of another faculty asking him which subject occupied him most nowadays and that he was astonished at his reply, "The mode of distribution of tuberculosis," saying that he thought Koch had discovered the tubercle bacillus more than 25 years ago! It was very apparent in the discussion of this section that many riddles still await a solution. The various papers presented in this section will merit the most careful study. Such a study will show that in point of fact the disagreement between the various authors is not really so great as appears on first impression. Particularly the now famous "conference *in camera*" has shown how easily the impression of radical disagreement can be created when on practical points almost every one was agreed. A universal language would help much toward bringing together more closely the factions now opposing each other. Not the least interesting or instructive part of the congress were the exhibits, and they must have been of unquestioned educational value.

The most critical will acknowledge that this congress has been a great success. The men who have come here from long distances have become our friends and we theirs, and the universality of medicine and the cooperation of social forces in this most important problem of civilization has received an impetus far beyond the expectations of those intimately connected with the management of the congress.

The organizing of such a congress required infinite tact and patience, great executive ability and an enormous amount of sheer hard work. That these qualities were forthcoming and were, moreover, persistently and intelligently applied, is evidenced by the successful consummation of the congress. To those on whom the task fell too much praise can not be accorded.

THE CONFERENCE *IN CAMERA* ON BOVINE AND HUMAN TUBERCULOSIS.

One of the most important questions relating to tuberculosis is that regarding the transmissibility of the bovine type to man. When it was known that Prof. Koch would be at the International Congress on Tuberculosis it was expected that this would be *the* question of the congress, and so it proved. It was first brought forward in the joint meeting of Sections I and VII, at which Prof. Koch reiterated in part what he had said at the London congress in 1901. As will be noted by our report[1] of this meeting, there was almost unanimous opposition to the position held by Prof. Koch, and when the meeting adjourned it was realized that little progress had been made in reaching an agreement. For this reason Prof. Koch himself suggested an intimate discussion of the points at issue in a conference *in camera*. This conference was held Friday morning[2], and the presence of such authorities as Koch, Arloing, Theobald Smith, Calmette, Tendeloo, Ravenel, Fibiger, Adami, Sims Woodhead, Eastwood, Courmont and others, stamped it as one of the most notable gatherings ever held on the subject.

This conference, however, also failed to produce complete agreement. Prof. Koch and his supporters, who were decidedly in the minority, still insisted that bovine is so different from human tuberculosis that infection of man by tuberculous cattle is reduced to a minimum; the opponents of this view holding that tuberculosis in cattle constitutes a most serious menace to public health, and one that urgently calls for eradication.

It is to be regretted that unanimity of opinion could not emanate from this particular conference. This would have offset to some extent Prof. Koch's failure to explain, both in London and now again in Washington, that his individual views regarding the rare intercommunicabilty of the two types have no practical bearing on the crusade being waged in all civilized countries for the eradication of tuberculosis in dairy herds. Scientific investigators very well understand Prof. Koch's attitude of scientific doubt and approve of it. But the ordinary man—the farmer and the politician—does not understand it and is very apt to misinterpret it, knowingly or unwittingly, in that way which to him seems most profitable.

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[1] Page 1252 of this issue.
[2] Page 1262 of this issue.

Prof. Koch, in the eyes of the public, stands as the great authority on tuberculosis, and his views, therefore, carry enormous weight with the ordinary layman However tenable, therefore, Prof. Koch's position may be, however reasonable his doubt from a purely scientific and technical standpoint, it is to be deplored that on the practical points at issue, the humanitarian side of the appeal, he should not be found willing and even anxious to lend the authority of his great name to aid a movement that can only be productive of immeasurable good. Even if continued researches should ultimately show that the more common pulmonary tuberculosis in adults is caused solely by bacilli of the human type, they can hardly disprove that a certain proportion of the other forms of tuberculosis, especially in children, is of bovine origin. Children no doubt succumb to bovine tuberculosis; there may be only a few, relatively, but there may be a great many more than we are inclined at present to believe. There is certainly sufficient evidence to warrant energetic and carefully directed warfare against tuberculosis in animals used for human food and especially in dairy cows. Waiting until certain purely academic questions relating chiefly to problems biologic and statistical are brought to their ultimate solutions, is, in the light of our present knowledge, an indefensible attitude.

Medical News

ILLINOIS.

Personal.—Dr. Guy G. Dowdall, Clinton, and Dr. and Mrs. J. Earle Meloy, Lincoln, have returned from Europe.——Dr. and Mrs. Albert M. Earel, Hoopeston, sailed from Quebec for Liverpool, October 2.——Dr. William D. Humphrey has succeeded Dr. John W. Huston, resigned, as city physician and president of the board of health of Virginia.

Communicable Diseases.—The epidemic of diphtheria at Medora is reported to be abating.——Because of the prevalence of diphtheria, the public schools of Benld have been ordered closed.——Springfield reports seven cases of diphtheria and six cases of scarlet fever.——Hinckley, with a population of 500, reports 61 cases of scarlet fever and diphtheria, and two of the patients are said to be physicians who are members of the board of health of the village.——Smallpox is reported at Pawnee. The public school has been closed, church services have been suspended and rigid quarantine regulations are being enforced.

Conference of Charities.—The State Conference of Charities will be held in Rock Island October 10 to 13, inclusive. Dr. William H. C. Smith, Godfrey, is president, and Dr. Frank P. Norbury, Jacksonville, chairman of the executive committee. Dr. Adolph Meyer, director of the New York State Pathologic Institute, and recently elected professor of psychiatry in Johns Hopkins University, and director of the psychiatric clinic in Johns Hopkins Hospital, will speak October 12 on "How Shall the Problem of Public Care of the Insane be Solved?" At the same session Dr. George A. Zeller, superintendent of the Illinois General Hospital for the Insane, South Bartonville, will deliver an address on the "Modern Treatment of the Epileptic and the Insane." Dr. William H. C. Smith, president of the State Conference of Charities, will deliver an address on the evening of October 10, on the "History of the Care of the Feeble-Minded in Illinois." The tuberculosis question will receive prominent attention. Alexander Wilson, superintendent of the Chicago Bureau of Associated Charities, will outline a working tuberculosis program for Illinois, and Dr. James W. Pettit, head of the Ottawa Tent Colony, will speak on "The Local Versus the State Sanatorium for the Treatment of Tuberculosis." On October 11, Prof. George W. Jones, superintendent of the Illinois State School for the Blind, Jacksonville, will deliver an address on "The Duty of the State Toward the Blind."

Chicago.

Personal.—Drs. Oscar H. Kraft and David Monash have returned from Europe.——Dr. Ignatz Lange has been elected president of the Anglo-American Medical Association of Vienna.

A Lowered Death Rate.—The death rate for the week ended October 3 was equivalent to an annual rate of 12.47 per 1,000, as compared with 14.04 per 1,000 for the preceding week. There were 65 fewer deaths reported. The infant mortality fell from 166 to 126 and the deaths from diarrheal diseases from 142 to 112. Pneumonia is the only disease in which an increase was noted.

Contagious Diseases.—During the week ended October 3, 333 cases of contagious diseases were reported to the department of health, 16 fewer than for the preceding week, distributed as follows: Diphtheria and typhoid fever, each, 100; scarlet fever, 57; whooping cough, 20; tuberculosis, 19; pneumonia, 15; measles, 12; chickenpox, 7, and minor infectious diseases, 3. As compared with the report of the preceding week, there were 6 fewer cases of diphtheria and 17 fewer cases of scarlet fever, while typhoid fever showed an advance of 24 cases.

MARYLAND.

Vehicle License Law Constitutional.—In the case of Dr. Benjamin R. Davidson, Davidsonville, register of wills, who was arrested for failing to procure a license for his vehicle, and who defended himself on the ground of the unconstitutionality of the law, the circuit judge has declared the law constitutional.

Baltimore.

Vital Statistics.—The health commissioner calls attention to the decrease in deaths of infants under 2 years of age from intestinal diseases during September. In September, 1907, there were 125 deaths, while in last month there were only 54. This reduction he attributes to pure milk. During September 757 deaths and 820 births were reported.

Entertainment of Foreign Delegates.—The official foreign delegates to the Tuberculosis Congress were entertained October 5. The program embraced an official welcome at the city hall by the governor and mayor; inspection of the city health department laboratories; an automobile ride through the city and parks; an inspection of and luncheon at Johns Hopkins Hospital; inspection of the Eudowood Hospital for Consumptives; a dinner, given by Dr. and Mrs. H. Barton Jacobs; a lecture before the Medical and Chirurgical Faculty of Maryland by M. Augustin Rey of Paris; and a smoker at the Belvedere Hotel, given by the Baltimore City Medical Society.

MASSACHUSETTS.

College Opens.—The College of Physicians and Surgeons, Boston, opened for its twenty-ninth annual session September 19, Dr. Thomas D. Crothers, Hartford, Conn., delivering the opening address.

Club in Society.—Five members of the Thurber Medical Association, Drs. John M. French, Milford; Nathan W. Sanborn, Bellingham; Nathaniel C. B Haviland, Holliston; William L. Johnson, Uxbridge; and Brown, Woonsocket, have formed a unique organization, which has no officers, no business meetings, no constitution and by-laws, no formality in its sessions, and whose cardinal principles are sincerity, esteem and friendship—in fact, the Æsculapian Club is purely a social medical club

Personal.—Dr. Marshall Fabyan, Brookline, is in Berlin.——Dr. Alice M. Patterson, Peabody, has returned from Europe.——Dr. Henry F. Dearborn has finished his term of service at the Lawrence General Hospital and will practice in Lawrence.——Dr. George F. Keenan has been made resident surgeon, and Dr. Daniel Maguire, assistant resident surgeon, at the new First Boston Relief Hospital, to be opened about October 15.——Dr. Orville W. Collins has been elected president; Dr. Lewis M Palmer, a vice president; and Dr. Richard M. Raymond, a director of the South Framingham board of trade.——Dr. Michael J. Shea, Chicopee Falls, has returned from Europe.——Dr Edward R Utley, for ten years city physician of Newton, has resigned.——Dr. George B. Magrath, Boston, sailed from New York September 11, for Europe.

MICHIGAN.

Infectious Diseases.—On September 18 there were reported to be 96 cases of communicable diseases in Grand Rapids, distributed as follows: Tuberculosis, 52; typhoid fever, 23; scarlet fever, 10, diphtheria and whooping cough, each 5; and measles 1

Medical Missionary College Opening.—The annual session of the American Medical Missionary College, Battle Creek, opened September 15. Dr James H. Kellogg presided, and in his address gave a brief history of the education of medical missionaries in the United States

Personal.—Dr Charles D. Aaron, Detroit, has returned from Europe.——Dr. Frederick P. Sprague, Wyandotte, is reported to be seriously ill with pneumonia.——Drs. Lester J. Harris and Frank I. Gibson have been appointed as the medical staff of the White Cross Sanitarium, Jackson.——Dr. Ellsworth Orton, Pontiac, was operated on for appendicitis September 11.——Dr. Alva N. Collins, Detroit, is suffering from septicemia, following a prick with a needle during a surgical operation

August Mortality.—During August there were 3.092 deaths returned to the department of state, equivalent to an annual death rate of 13.8 per 1.000. This is an increase of 437 over July and of 357 over August, 1907. Among the important causes of death were: Diarrhea and enteritis of children under 2 years of age, 437; violence, 228; tuberculosis, 187; cancer, 169; typhoid fever, 60; pneumonia, 43; meningitis, 41; whooping cough, 25; diphtheria, 18; scarlet fever, 7, and measles and influenza, each 4 As compared with the preceding month, a decrease is shown in the deaths from tuberculosis, diphtheria, measles, pneumonia, influenza and violence, and an increase in the deaths from typhoid fever, whooping cough, diarrhea and enteritis and cancer

NEBRASKA.

Distinguished Medical Officer Dies.—Brigadier General John E Summers, U. S. A retired, father of Dr. John E Summers, Omaha, died at Atlantic City, N. J. October 1.

Another County Society in Line.—A resolution was adopted by the Saline County Medical Society, at its last regular meeting, that the newspapers of the county be respectfully requested not to publish the names of the members of the society in connection with any accident or sick news.

Anti-Tuberculosis Exhibit.—To instruct the people of Nebraska in the prevention and care of tuberculosis, the executive committee of the Nebraska Association for the Study and Prevention of Tuberculosis will place a free exhibit before the public in Omaha, early in October, for a week or ten days.

Hospital Dedicated.—Tabitha Hospital, Lincoln, was dedicated September 4. The hospital is the property of the Evangelical Lutheran Church of the United States, and, in addition to the hospital, a home for the aged and an orphanage have been established. The estimated value of the entire institution is $65,000 and it can accommodate 100 patients

NEW YORK.

Medical School Opens.—The formal opening of the Medical Department of the University of Buffalo was held September 28 The opening address was delivered by Dr. Julius Ullman

Academy of Medicine Reorganized.—Binghamton Academy of Medicine, which passed out of active existence some time ago, was reorganized September 29, with the following officers: President, Dr. John H Martin; vice president, Dr. John S. Kelley; secretary, Dr Frank L Allen, and treasurer, Dr John C S Lappeus.

Communicable Diseases.—Buffalo is reported to have had more than 125 cases of scarlet fever in September, and the condition is said to have been due in a great measure to the failure of physicians to report cases and to the negligence of parents in observing quarantine regulations.——Smallpox in mild type is reported at Copake.——Diphtheria is reported to be very prevalent in Niagara Falls, where the health officer, Dr. Frederick N. C Jerauld, is seriously ill with the disease.

New York City.

Medical Colleges Open.—The University and Bellevue Hospital Medical College, the College of Physicians and Surgeons, the Medical Department of Columbia University and the Cornell University Medical College opened this week.

Personal.—Dr. William J. Robinson returned from Europe September 29.——Dr. Luther H. Gulick has resigned as director of physical training in the schools of Greater New York, and will devote his time to playground work.

Plea for a National Department of Public Health.—Dr. Charles A. L Reed, Cincinnati, will deliver a public lecture at the New York Academy of Medicine, October 29, on "The Character, Status, and Economic Value of a National Department of Public Health."

Noise Crusade.—Dr. Thomas Darlington, president of the Board of Health, favors the suggestion of colored signs as a means of attracting attention of street vendors in order to do away with their loud cries. This is a plan that has worked so well in Europe that it is believed to be worthy of adoption in this country.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended September 26, 530 cases of tuberculosis, with 172 deaths; 255 cases of diphtheria, with 24 deaths; 143 cases of measles, with 7 deaths; 127 cases of typhoid fever, with 29 deaths; 25 cases of whooping cough, with 6 deaths; 8 cases of cerebrospinal meningitis, with 8 deaths; 54 cases of measles and 17 cases of varicella, a total of 1,159 cases and 247 deaths.

NORTH CAROLINA.

Personal.—Dr. Lewis B. McBrayer, Asheville, left September 15 for an extended tour of the West.——Dr. Albert Anderson, Raleigh, has resigned as director of the Hospital for the Colored Insane at Goldsboro.

Hospital Sunday.—September 20 was designated by the Ministers' Association of Asheville as Hospital Sunday, and about $1,200 was realized by collections in churches on that day for the benefit of the Mission Hospital.

August Disease and Death.—During August, there were reported 322 deaths in the state, equivalent to an annual mortality rate of 16 per 1,000 Chief among death causes were consumption, 23 diarrheal diseases, 35; heart diseases, 24; typhoid fever, 21; brain diseases, 19; pneumonia, 13, and accidents 11

Communicable Diseases.—The following cases of communicable diseases were reported in August: Measles from 7 counties, whooping cough from 31 counties; scarlet fever from 28 counties; diphtheria from 38 counties; typhoid fever from 70 counties; malarial fever from 36 counties; cerebrospinal meningitis from one county; pneumonia from 20 counties, and smallpox from 6 counties.—The prevalence of scarlet fever in Spencer and East Spencer has delayed the opening of the public schools in those places.——Diphtheria is reported in Fleming

NORTH DAKOTA.

Society Meeting.—The Grand Forks District Medical Association, at its annual meeting, elected the following officers: Dr. Henry O'Keefe, Grand Forks, president; Dr. John E. Countryman, Grafton, vice president; Dr. Archibald McDonald, Grand Forks, secretary treasurer; Drs. Witherstine and Zella W Stewart, Grand Forks, delegates to the state society; and Drs Henry G. Woutat and Gudmund L Gislason, Grand Forks censors.

Public Health Laboratory.—Since the establishment of the public health laboratory of North Dakota in July, 1907, 1,828 bacteriologic and pathologic specimens have been examined, 787 of which were throat cultures to be examined for diphtheria bacilli, 454 were specimens of sputum to be examined for tuberculous bacilli, 190 were specimens of blood to be examined for Widal reaction, and 120 were specimens of tissue removed at operations and sent for diagnosis.

State Bulletin.—The North Dakota State Board of Health, in its September bulletin, pays special attention to the diseases which cause trouble in school life: First, smallpox: and second, diseases characterized under the general symptoms of "sore throat," asking all school boards and boards of health to enforce regulations that no pupil be admitted to public school without showing satisfactory evidence of recent successful vaccination by inspection of each pupil by a competent health officer before admittance to school. The board advised that all cases of sore throat be considered as suspicious, and that each child with sore throat be examined by a physician.

OKLAHOMA.

Medical School Opens.—The Medical Department of Epworth University, Oklahoma City, opened for its fifth year, October 7.

Medical College Association Incorporated.—The Oklahoma Medical College Building Association of Oklahoma City is said to have been incorporated with a capital stock of $5,000.

Medical Society Organized.—The physicians of the east side of Oklahoma County have organized the Canadian Valley Medical Association, with the following officers: President, Dr. Ira J. Wood, Jones City, and secretary, Dr. Townsend, Choctaw.

The Dispensary System.—It is reported that from October 20 to August 18 more than 40 prescriptions by one physician for spirits were handed in at the Wood County dispensary at Ingersoll. During the same period the prescriptions for liquor written by all the other practitioners of the county amounted to twenty.—The Garvin County Medical Association has passed resolutions condemning the practice of writing prescriptions for intoxicating liquor.

State Medical Board Appointed.—On September 28, Acting Governor Bellamy announced the selection of the following state board of medical examiners: Drs. William T. Tilly, Muskogee: A. M. Chambers, Poteau: Davenport, Oklahoma City, and Alexander M. Butts, Holdenville, regulars: Drs. Daniel W. Miller, Blackwell, and Joseph Hensley, Oklahoma City, homeopaths: Dr. Frank P. Davis, Enid, eclectic: Drs. Arthur R. Lewis, Ryan: Isaac A. Briggs, Atoka (alternate), physio-medical; and H. C. Montague, Muskogee, and J. A. Price (alternate), osteopaths.

Suit Against Physician.—Benjamin F. Lee has filed suit against Dr. Fred S. Clinton, Tulsa, for $5,000 damages alleging amputation of his leg without his consent. The patient received an injury of the patella in May, 1907, said to have been due to a hatchet wound, and he also is said to have septic arthritis and synovitis involving the knee, left wrist and forearm Dr. Clinton, who was called in consultation, agreed with the attending physicians, that amputation was the only way to save the plaintiff's life, and both Dr. Clinton and other physicians served without compensation.

OREGON.

Typhoid Fever.—Typhoid fever is reported to be epidemic in Oregon City, where five cases have been reported, with one death.

Personal.—Dr. Harvey J. Clements, Salem, has been elected a member of the medical staff of the State Insane Hospital. ——The board of trade of Hillsboro was reorganized September 14, and Dr. James P. Tamiesie was elected president.

Hospital for Multnomah County.—Negotiations were closed September 21, giving the county the option to purchase the C. E. Smith homestead in South Portland for $50,000, to be used as a county hospital. Plans are contemplated for a permanent structure, but the building on the ground, after remodeling, will provide accommodation for from sixty to seventy-five patients.

Medical Society Organized.—At a meeting held in Dallas September 9, the Medical Association of Polk and Yamhill counties was organized, with the following officers: President, Dr. William J. Gilstrap, Sheridan: secretary, Dr. L. A. Bollman, Dallas; and committee to draft a constitution and by-laws, Drs. Asa B. Starbuck and B. H. McCallon, Dallas: and Dr. James H. Cook, McMinnville.

District Society Meeting.—At the sixth annual meeting of the Eastern Oregon District Medical Association, held at Radium Springs, Baker County, July 24, the following officers were elected: Dr. William O. Spencer, Huntington: vice-presidents, Drs. Carl G. Patterson, Baker City, and Leo W. Chilton, North Powder: secretary-treasurer, Dr. Roy C. McDaniels, Baker City; censor, Dr. George R. Pogue, Ontario; and delegates to the joint meeting of the medical societies of Oregon, Washington and Idaho, Drs. Nicholas Molitor, La Grande; and Edward B. McDaniels, Baker City. The next meeting of the society will be held in Pendleton.——At the annual meeting of Portland Medical Club, held July 14, the following officers were elected: Dr. Katherine C. Manion was elected president: Dr. Elsie D. Patton, vice-president: Dr. Ethel Gray, secretary: Dr. Mae H. W. Cardwell, treasurer: and Dr. Eunice E. Van Alstine, member of the executive board.

PENNSYLVANIA.

Bequests.—By the will of the late Michael Callahan, Norristown, $5,000 is bequeathed to Bryn Mawr Hospital.——By the will of the late Miss Anne Van Reed, Reading, $6,500 is devised to the Medico-Chirurgical Hospital of Philadelphia.

Society Meetings.—At the fifth annual meeting of the Fourth District Medical Society, composed of Lebanon, Lancaster and Dauphin counties, held in Penryn Park, August 20, the following officers were elected: President, Dr. Hiram McGowan, Harrisburg; and Dr. David S. Funk, Harrisburg, secretary.——The annual election of the Reading Medical Association was held August 26, and the following officers were elected: President, Dr. Ferdinando Colletti; vice-president, Dr. George W. Kehl: secretary, Dr. Clara S. Keiser: curator, Dr. Richard F. Hutchins; and censors, Drs. Israel Cleaver, Fremont W. Frankhauser and Daniel Longaker.

Philadelphia.

Personal.—Dr. Hobart A. Hare returned October 1 from a trip to Japan.——Dr. B. Franklin Royer, who has been confined to Jefferson Hospital suffering from typhoid fever, is convalescing.

College Opens. The Medico-Chirurgical College began its work of the year September 28, the introductory address being given by Dr. L. Webster Fox, professor of ophthalmology, who made a plea for a five-year medical course.

Malpractitioner Sentenced.—Charles Bushnell is said to have pleaded guilty in the United States District Court, September 21, to using the mails in furtherance of illegal practice, and to have been sentenced to fifteen months' imprisonment in the Eastern Penitentiary.

Hospital Annex Dedicated.—The new annex to St. Joseph's Hospital was dedicated and opened to the public September 25. The new building is a three-story structure of brick and marble and contains a basement, a pathologic laboratory and ward, while the rest of the structure will be provided with an isolation room and private rooms for the treatment of contagious diseases.

New Local Society.—The physicians of the southeastern section of the city met September 29, and organized the Southeastern Medical Society, which will eventually become a branch of the Philadelphia County Medical Society. The object of the society was outlined as betterment of the hygienic conditions in the tenement district and as an aid in the crusade against tuberculosis. Dr. Aaron Brav was elected president: Dr. Maurice J. Heider, vice-president: Dr. M. V. Cooperman, secretary; and Dr. S. Wendkos, treasurer.

Nominating Committee Selected.—The following men have been named to serve as the nominating committee of the Philadelphia County Medical Society: Drs. Alexander R. Craig, Charles A. E. Codman, Augustus A. Eshner, A. Bern Hirsh and William T. Hamilton. The function of this committee is to nominate at the October business meeting of the society a full list of delegates and alternates from the society to serve at the Medical Society of the State of Pennsylvania. These candidates are balloted for at the January (1909) meeting of the society.

Health Report.—The total number of deaths reported for the week ended October 3 was 452. This is an increase of 53 over last week and an increase of 46 over the corresponding week of 1907. The principal causes of death were: Typhoid fever, 8: scarlet fever, 5; pertussis, 4: diphtheria, 7: consumption, 49; cancer, 30: diabetes, 3: apoplexy, 18: heart disease, 46: acute respiratory disease, 39: enteritis, 42: hepatic cirrhosis, 3; Bright's disease, 34: premature birth, 11: congenital debility, 17: senility, 6: suicide, 8: accidents, 16: and marasmus, 8. There were 204 cases of contagious disease reported, with 20 deaths, as compared with 197 cases and 21 deaths reported in the preceding week.

GENERAL.

Railway Surgeons to Meet.—The New York and New England Association of Railway Surgeons will hold its eighteenth annual session in the Academy of Medicine, New York City, November 17 and 18, under the presidency of Dr. Ferdinand

A. Stillings, Concord, N. H. The entire morning of the first day will be devoted to a symposium on "What Are the Causes Leading to Railway Accidents and What Remedies Can be Suggested?"

Yellow Fever in Havana.- The case of yellow fever reported in Havana at Las Animas Hospital terminated fatally September 16, the autopsy confirming the diagnosis. Drastic measures were adopted immediately on the announcement of the case, the entire district bordering on the water front being placed under extraordinary surveillance of the sanitary department.——The Public Health and Marine-Hospital Service removed the quarantine against Havana September 30, but the quarantine against the province of Santiago still remains effective.

Colored Medical Men Hold Convention. At the tenth annual meeting of the National Medical Association, composed of colored physicians, dentists and pharmacists, held in New York City, August 25 to 27, the following officers were elected: Dr. P. Augustus Johnson, New York City, president; W. F. Lofton, Washington, D. C., vice-president; John Kenney, Tuskegee, Ala., general secretary; Dr. A. Wilberforce Williams, Chicago, treasurer; Dr. Austin M. Curtis, Washington, D. C., president of the surgical section; and Dr. Creed W. Childs, Washington, D. C., president of the medical section.

Health of the Canal Zone. - The report of the department of sanitation of the Canal Zone for July notes an increase in the death and sick rates from those of June, and an improvement as compared with July, 1907. For instance, the death rate for whites for July, 1907, was 15.72; for July, 1908, 12.69; among blacks, the death rate was 42.58 for July, 1907, and 15.43 for July, 1908, making a total annual death rate of 35.09 per 1,000 among all employés for July, 1907, and 14.68 for July, 1909. In July, 1907, there were 32,298 employés, with 112 deaths; in July, 1908, 44,938 employés, with 55 deaths. A satisfactory decrease is also reported in the death rate of the total population. In Panama, in July, 1907, the death rate was 50.91 per 1,000, in 1908, 36.31. In Colon the rate was 43.46 as compared with 27.01. In the Canal Zone 34.99 as against 25.65; in the total population 41.46 as against 29.11. In July last year the daily sick rate among employés was 28.66 per 1,000; in July of this year, 27.01 per 1,000. The gravity of cases has greatly decreased, as in July, 1907, with a sick rate of 28.66, the death rate was 35.09 per 1,000; in July, 1908, with a sick rate of 27.01, the death rate was only 14.68 per 1,000. No cases of plague, yellow fever or smallpox originated in the Canal Zone during the month, nor were any cases of these diseases admitted to the quarantine stations.

FOREIGN.

Prophylactic Pamphlet Suppressed. –The *St. Petersb. med. Wochenschrift* states that Dr. Shbankow, of Moscow, secretary of the national Russian medical association, has been arrested on account of his pamphlet, "What Must One Know for Successful Prevention of Contagious Diseases?" The entire edition of the pamphlet was confiscated.

Prize Circular for Prophylaxis of Venereal Affections.-- Twenty-six works were received in competition for the prizes offered by the German Preventive Society for the best circular to aid in repression of venereal affections in the army and navy. The first prize was not awarded; the second was given to C. Graeser, director of the German hospital at Naples, and the third to Orlowski of Berlin.

Medical Service in Paris Theaters.—The regulations in regard to medical service during theatrical entertainments at Paris have recently been made much stricter. Every theater with a capacity of over 800 spectators is required to have a physician in attendance, with a suitable office to care for the employés or spectators at need. The physician is to be chosen by the manager of the theater, subject to the approval of the chief of police, and the medical service must be arranged so that a physician will be in attendance from beginning to end of all representations and general rehearsals.

The Eighth Annual German Study Trip.—A Madrid exchange mentions the arrival at the seaport of San Sebastian of the large party of German physicians who left Hamburg early in September on the annual medical educational trip to health resorts. There are several hundred physicians in the party, and the Spanish colleagues entertained them. The days at Hamburg were crowded with visiting the various medical institutions and important lectures by Nocht and Lenhartz on "The Physician and Maritime Traffic" and "Milk Diet Treatment of Obesity and Heart Disease." The party then embarked for Ostend, but the weather was too stormy to make the landing. The impotency of medicine in the face of seasickness was forcibly illustrated in this part of the trip. Teneriffe on the Canary Islands is the objective point.

Prophylaxis Against Importation of Cholera.- The Public Health Reports in the last issues of The Journal show how rapidly cholera has spread in Russia, the epidemic now extending nearly from the extreme south to the extreme north. A later official dispatch states that September 15 there were 515 cholera patients in the St. Petersburg hospitals, and that the bodies of the victims in the hospitals had been lying for five days unburied. The physicians, it states, are trying to make the cremation of the corpses of cholera patients compulsory. The American consul at Riga has been ordered to enforce quarantine regulations in regard to detention of passengers and crews of vessels, and those at London, Southampton, Glasgow, Hamburg, Bremen, Antwerp and Rotterdam have been ordered to enforce the quarantine detention of steerage passengers. A dispatch from Berlin, September 28, states that the epidemic in Russia is considered to be increasing, and that immigrants are detained by the American authorities to complete five days from Russia with inspection of Russian vessels by sea and rivers. Our British exchanges regard the epidemic as merely "running the normal course of cholera in Russia," with no chance of an outbreak in Great Britain, as modern prophylactic measures easily keep cholera under control as imported cases may develop here or there.

Workmen's Compensation Legislation in Holland.—A law providing for compensation of workmen injured while at work has been in operation in Holland for four years. Financial difficulties have now arisen, a deficit confronting the authorities, and the subject is being widely discussed. Some of the most prominent medical men of the country are publishing articles in the medical and lay press denouncing the law and relating disastrous consequences from its application, claiming that it breeds simulation and favors the development of neuroses. Professor Korteweg of Leyden, in the leading medical journal, states that the law "acts like the surgeon who does not cut down to the quick; it makes suppurating wounds." Many instances are related of workmen who, under other conditions would long since have been at work again, in good health, after a comparatively trifling industrial accident, now pose as victims; any kind of work is distasteful to them, and they are all candidates for neurasthenia. The same reports come from Germany of physical and moral deterioration as the results of the legislation in this line, and the government in Holland is discussing ways and means to counteract the unforeseen deplorable consequences of this well-intentioned legislation. One of the officials in charge of the indemnities asserts that the public funds are being wasted to support many malingerers in idleness, as it seems to be impossible in many cases to reveal the simulation. The medical men are almost unanimous in stating that if the injured workman could receive at once a stated indemnity the clinical results would be much better than by the present system of trying to make the indemnity conform to the permanent disability.

French Congress of Internal Medicine.—The tenth congress was held at Geneva, September 3 to 6. The address by the president, Professor d'Espine, was devoted to "Rousseau and Breast Feeding." Huchard and Jaquet presented addresses on the clinical forms of arteriosclerosis; Dubois and J. Lépine on the pathogeny of neurasthenic conditions, and Gilbert, Carnot, Jomier and Mongour discussed the treatment of cholelithiasis. Dunin ascribes the neurasthenic symptoms to "exaggerated autoanalysis," the result of heredity and vicious training. Teissier is convinced that neurasthenia is a cerebellar syndrome; it may be either direct, reflex or toxic. In two cases in his experience the clinical picture of neurasthenia was presented in every detail as the result of a hemorrhage in the vermiform process in one case and of a tumor in the cerebellum in the other. Lévy defines neurasthenia as the result of a lack of education and says that education should be the keystone of its treatment. Deschamps declared that there is no one neurasthenia, but that there are a number of asthenias, which have a thousand etiologies and a thousand pathogenies. The causes which may impose obstacles to the production, distribution and circulation of energy are innumerable, but they may be classed as 1, exhaustion, from overexertion or acute toxi-infections; 2, total or partial organic insufficiencies; and 3, inhibitions, psychic or physical. Lépine argued that there are two elements in neurasthenia, one organic, the other cerebral. Neurasthenics all require better conditions of "mental dynamism." The speakers on cholelithiasis regard as the greatest progress in medical treatment in the last few years, the distinction between liver colic, due to small gallstones, and gall-bladder colic, which usually corresponds to gallstones too large to migrate. The systematic study of the tolerance in gall-bladder colic and knowing when to abandon the attempt to expel the gallstones are the principal achievements of the last few years. They regard olive oil as the best cholagog in treatment of cholelithiasis. Huchard reviewed his experience with 15,000 cases of arteriosclerosis, dwelling on his well-known views in regard to the "presclerosis stage," dominated by arterial hypertension, probably of renal origin. The next congress will be held in 1910 at Paris. The subjects appointed for discussion are "Bradycardia;" "Relations of the Liver and Spleen with Pathologic Conditions," and "Treatment of Symptomatic Epilepsy."

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Sept. 19, 1908.

Precautions Against Cholera.

The outbreak of cholera in Russia has aroused the British sanitary authorities to take every possible precaution against invasion by the disease. The extensive trade with Russia, amounting to a total tonnage of 3,000,000, renders this necessary. All vessels from infected Russian ports bound for London are stopped at Gravesend and subjected to the closest examination by the port sanitary officers. Similar precautions are being taken at other ports. At Liverpool any ship from an infected or suspected port will be detained in quarantine for a sufficient period for symptoms of the disease to appear. In case any vessel arrives with a case of cholera on board the crew and passengers will be detained and isolated. The chief danger of infection is feared through rats, and in all suspected vessels a system of fumigation will be carried out which will drive the rats from the lower holds and prove fatal as soon as they reach the upper holds or decks. Thanks to effective precautions there has been no epidemic of cholera in London since 1866, in which year nearly 6,000 deaths from the disease occurred. During the epidemic of 1893-94, when cholera was raging in Europe, London had only a few cases, resulting in nine deaths. The disease obtained a slight hold at Hull and Grimsby, and isolated attacks occurred in some fifty different localities, but the total number of attacks was only 287.

New Regulations for Importation of Meat.

The local government board has issued important regulations providing for thorough inspection of all food entering the British Isles. Unsound food will be dealt with at the port of discharge. The customs officers will cooperate with the health officers in carrying out the regulations. The health officers are empowered to seize unsound food in order that application may be made to a magistrate for an order for condemnation. The second set of regulations relate to foreign meat. They are designed to deal with foreign boneless meat which is imported in the form of scraps, trimmings or other pieces not sufficiently identifiable with definite parts of a carcass. Unless the importer of this class of meat exports it at his own expense or furnishes proof in the manner prescribed by the regulations that it is not intended for sale for human consumption it will be destroyed. With a view to stopping the importation of carcasses of pigs from which the cervical lymphatic glands have been removed (thereby preventing the detection of evidence of tuberculosis and other diseases) the regulations provide that such carcasses (not prepared as bacon or ham) shall be dealt with in similar manner to meat imported in the form of scraps.

Butchers Boycott Tuberculous Meat.

A remarkable movement has been made by the butchers which must have important results in the struggle against tuberculosis. A meeting of the butchers has been held near the great Smithfield Market in London. Mr. Lindsay, president of the butchers' society, said that butchers had lost thousands of pounds sterling in consequence of animals, on slaughtering, being found diseased. Yet the farmers never lost a penny and the government refused to allow any compensation. A resolution was carried unanimously that farmers throughout Great Britain will be asked after November 2 to give warranties with the meat they sell and those who refuse to do so will be boycotted.

"Making a New Eye"; Extraordinary Fraud.

An extraordinary story of quackery showing the incredible extent of human credulity was told at the Old Bailey. "Prof. Wallis Rogers," the "Magnetic Healer" of Gray's Inn Road, answered to the charge of having defrauded a servant girl by undertaking to grow a new eye in place of one which she had lost. She visited him daily and payed sums varying from $2.50 to $5. Each time he placed her on a table covered with green cloth and made "magnetic passes" over her spine. As no result was achieved she communicated with the police. The prisoner delivered a long speech in which he maintained that the eye would have grown if the treatment had been persisted in long enough. Dr. Bath of Brixton Prison, who had had the prisoner under observation since his arrest, said that he had come to the conclusion that the man was insane. He was found guilty and sentenced to nine months' imprisonment.

British Pharmaceutical Conference.

The forty-fifth meeting of the British Pharmaceutical Conference has been held at Aberdeen. The membership of the conference amounts to 1,250. Delegates attended from all parts of Great Britain and from abroad. In his address the president, Mr. Robert Wright, F.R.C.S., of Buxton, especially discussed the commercial aspect of pharmacy. He also animadverted on the growth of the trade in "patent medicines," which was increasing at an enormous rate. Taking the population of the British Isles as 23,000,000 in 1860, and 39,000,000 in 1907, the amount spent on "patent medicines" per capita was now about five times as great as half a century ago. In his opinion the production and sale of such medicines should be subject to much severer restrictions. The outlets by which they found their way to the public should be limited by raising considerably the cost of the "patent-medicine" license. A board of control, consisting of authorities in the different branches of medicine should be constituted to which every secret remedy should be submitted for registration before permission was given for its sale and the use of the government stamp. He was confident that soon much more than this would be demanded and that the custom which now obtained in the United States and some continental countries would be followed, namely, that the label on every bottle should state the volume of alcohol above the percentage required to preserve vegetable extracts and the proportion of any scheduled poison present. Furthermore, he anticipated the time when the label should be required to show all the active ingredients, though not necessarily their proportions. Consideration for the public health demanded these regulations, for where the public was unable to form the slightest idea as to the nature and composition of a preparation it was necessary to take steps to prevent its health being subject to dangers of all kinds at the hand of unqualified persons.

Sewage Disposal.

The extensive pollution of water supplies occurring in many parts of the kingdom led the government to appoint a royal commission to report on methods of the disposal of sewage, including liquids from factories and manufacturing processes. A most extensive inquiry has been carried out. A fifth report has just been issued which as an authoritative statement of the present position of the sewage problem leaves nothing to be desired in clearness and definiteness. The commission is satisfied that it is practicable to purify the sewage of towns to any degree required, either by land treatment or by artificial filters, and that there is no essential difference between the two processes, for in each case the purification, so far as it is not mechanical, is chiefly effected by micro-organisms. For the protection of rivers the commission recommends that an adequately equipped central authority should be appointed, under the control of which there should be local river boards. The latter would deal with disputes between local health authorities and manufacturers, the control of shellfish layings, the protection of water supplies, the collection of information as to the requirements and supplies of different parts of the country, and the settlement of standards of quality and of the duties of local authorities in providing for the conveyance of ordinary sewage and of surface and storm waters.

Sleeping Sickness; Agreement with Germany.

An agreement has been made between the British and German governments jointly to combat sleeping sickness in their African possessions. It is agreed that for a period of three years British and German doctors and officials in charge of concentration camps shall keep in touch with one another to compare the results of their various researches. Segregation camps will be established on either side of the frontier and infected natives will be prevented from passing into uninfected districts and detained and segregated. All infected areas will be notified to both governments and effective means will be taken for dealing with crocodiles or other animals on which it may be found that the tsetse fly feeds.

A Hospital School.

The London County Council is most solicitous in providing means of education for all children, even for the subjects of disease and congenital defects. It maintains special schools for the blind and the deaf and is beginning to establish open-air schools for the weakly. It brings crippled children to school in special ambulances into which they are collected by nurses. But of all its educational endeavors the most remarkable is the school carried on in the wards of the Alexandra Hospital, Queen Square, for children suffering from hip disease. At present it contains 66 pupils, aged from 3 to 14, and three women teachers. Beds and pillows take the place of benches and desks, for each pupil has to work lying down. "School hours" are from 10 to 12 a. m. and from 1:30 to 3 p. m., with a half-holiday every Wednesday, besides the customary vacations. The children seem never so happy as when in school. Some have been in and out of the hospital for as long as four years, but the average period of treatment is 386 days. In addition to the ordinary lessons, they engage in such tasks as basket-making, knitting and embroidery. The intelligence of the children is up to the normal and some of them have gained art scholarships.

PARIS LETTER.

(From Our Regular Correspondent.)

Paris, Sept. 17, 1908.

French as an International Scientific Language.

I do not know to what extent the International Tuberculosis Congress in Washington will feel the inconvenience which diversity of languages generally causes in such gatherings. Such inconvenience was especially evident at the twelfth International Congress of Medical Sciences, held in Moscow in 1897, at which the use of the Russian language was permitted. The committee of organization of the fifteenth International Congress of Medicine, held in Lisbon in 1906, had the courage to exclude the native language of the country and to permit in the general meetings and in the sections only the use of German, English and French, this last language being, moreover, the official language of the congress "for international relations." Thus it is possible to avoid, to some extent, the confusion inevitably caused by permitting each speaker to express himself in his national language. The ideal, however, would evidently be to adopt for communications and for discussions a single language, as has been done for international relations. Some believe that only a new, artificially created language, such as Esperanto, is capable of answering the requirements: but is it not chimerical to think of adopting an artificial language, when it would be much simpler to use a living one? Many think that French, so long used in diplomatic intercourse, is the most suitable language for this purpose also. Certain institutes and scientific societies of the Slav countries, for instance, the Institute of Experimental Medicine of St. Petersburg, publish their works in French, or, at least, add to their publications a summary in French. Some Greek, Italian, Roumanian and Scandinavian publications do the same. It is the aim of the Committee on International Scientific Agreement for the adoption of an Auxiliary Language, on which are learned men of the first rank of various countries, to have French become an international medium of communication for science, as English is in economics. The second Congress for the Extension and Culture of the French Language, which will be held at Arlon, Belgium, September 20 to 23, has organized a scientific section, and has put on the program of this section a proposition setting forth the increasing difficulties which beset the exchange of ideas between the scientific men of various countries. There are at present three languages admitted to international congresses. This number tends to increase with the scientific and industrial development of hitherto backward countries, such as Italy, Russia and Japan, and with the increasingly close relations between peoples who have close intercourse by rapid travel. Our congress should certainly endeavor to interest scientific men, at least of the Latin and Slav countries, in the use of French for their international scientific communications. This would mean economy of time, a potent aid in scientific progress, and a wider publicity for scientific and technical works."

The Untidiness of Paris.

Complaint has often been made of the untidiness of Paris, and not without reason. The president of the municipal council, M. Chérioux, in a leading Paris newspaper, declares that, if there are absolute and relative truths, the untidiness of Paris is unfortunately an absolute truth. For ten years Paris has been upset by works which constantly make new barricades at the crossings. Then there are street hawkers distributing circulars to passers-by, who throw them on the sidewalk: the sidewalks, and sometimes the roadway itself, are encumbered by a multitude of booths and little structures, by the "terraces" of the cafés, and by the showcases of the shops. These latter, moreover, are open to hygienic objections, for in them foodstuffs are often exposed to the dust and filth of the street; but, as the rent which the merchants pay to the city for the right of occupying the public thoroughfares amounts to 1,000,000 francs a year, the administration is inclined to tolerate the abuse.

Preventive Measures Against the Cholera.

The cholera in Russia has led the French government to take preventive measures. All ships from Russian ports will be obliged to exhibit clean bills of health. On the frontier, at Jeumont, through which almost all travelers from Russia come, travelers will be inspected: those that are sick will be retained and isolated, and suspects will undergo disinfection: those that are well will be obliged to state their destination, and, on their arrival thereat, the mayor will be notified to have them kept under medical inspection for three days. These measures seem sufficient, for travelers from Russia will have been obliged, before traversing Germany, to undergo an extremely rigorous inspection at the German frontier.

An Investigation into the Social Rôle of the Physician.

M. Fernand Mazade has recently addressed to twenty distinguished sociologists, moralists and statesmen three inquiries: 1. Whether the physician has any other social function than to cure the physical ills of his patients: 2. whether he should concern himself with the passage of hygienic regulations and the solution of social problems; 3. whether the physician is gradually becoming the counselor of souls, in place of the priest. The last question has apparently given some offense to the conservatives. M. Etienne Lamy, member of the French Academy and director of the *Correspondant*, a widely circulated conservative review, believes that the influence of the priest is not diminishing, and that physicians have not learned to care for the ills of the soul. M. Paul Leroy-Beaulieu, the distinguished economist, who belongs to the school of *laisser faire*, thinks that the medical profession, by overzealous activity in public affairs, might endanger personal liberty without securing any corresponding benefit. M. Paul Beauregard, deputy and member of the Paris faculty of law, thinks that no special social rôle devolves on the medical profession. The comte de Franqueville, member of the Academy of Moral and Political Sciences, declares that, in a well-ordered society, each one ought to confine himself to the exercise of the vocation which he has chosen, and that the physician is no better qualified than is the lawyer, the architect, or the grocer, to take the place of the priest. M. Alfred Mézières, an academician, thinks that the profession of medicine to-day demands such profound and varied knowledge that it would be wrong to complicate the physician's task. Another academician, the vicomte Melchior de Voguë, in his dissatisfaction at the recent policies of "Drs. Combes and Clemenceau," blames their medical bias. The well-known apostle of the peace doctrine, M. Frédéric Passy, member of the Academy of Moral and Political Sciences, thinks that the rôle of the physician, which presupposes acquaintance with the character, the thoughts, the passions and the troubles of the patient, is increasing and ought to increase in importance, and that the personality of the physician is often as efficacious as his prescriptions. The celebrated mathematician and philosopher, M. Henri Poincaré, academician and author of a recent valuable work on "The Value of Science" and one on "Science and Hypothesis," believes that there are many physicians who exercise great moral influence, and others who are incapable of such influence. A literary man, M. Jean Blaize, remarks that, while the medical profession can not, any more than any other set of human beings, be compared to a hierarchy of angels, it can not justly be either despised or hated. M. Victor Margueritte, president of the Society of Men of Letters, says that in all ages the human soul and body have had need of a guide and stay. To-day faith in the priest is declining, faith in the physician is increasing. M. Jean Finot, director of *La Revue*, thinks that the physician's income ought to come from the well, not from the sick. This idea was expressed long ago by the celebrated Fourier, who, in his "Domestic Association," planned a state of society in which physicians should receive remuneration in inverse ratio to the number of sick persons.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, Sept. 10, 1908.

The Organization of the Medical Profession in Germany.

The German empire is a federation of states which recognize the German emperor as their federal head in matters pertaining to the empire at large and as commander in war, but other affairs are regulated by each state for itself. For this reason the public organization of the medical profession is not exactly the same for the entire German empire.

THE MEDICAL COUNCILS.

In Prussia the laws provide for a medical council, the *Aerztekammer*, in each province. Its functions embrace the discussion of all questions and affairs which concern the medical profession or the public health. The local authorities are directed to give medical councils opportunity to express their views on appropriate questions, especially those which concern the public health. The members of the medical council are elected by the medical voters of the province in good standing. Elections occur every three years, and one representative in the medical council is elected for each fifty physicians who have the right to vote; the council elects its own president. Each medical council has the right to appoint a delegate to the several official medical bodies, including the national Scientific Commission for Medical Affairs. Each medical council is empowered to require from the physicians entitled to a vote within the council district a yearly contribution for defraying its expenses. The amount of this contribution must be approved by the governor of the province. In the province containing Berlin the assessment is $2.50 for each physician plus 5 per cent. of his income tax. From the income obtained in this manner the medical councils not only defray the costs of administration, but also support departments for the assistance of physicians in need. The Berlin medical council appropriates every year to this department the sum of 50,000 marks ($12,000).

THE MEDICAL COURTS OF HONOR.

The right of discipline over the individual physicians of the election district was formerly in the hands of the president of the medical council, but a law passed in 1889 established a medical court of honor in every medical council district, with a superior court of appeals for Prussia at large. This ethical jurisdiction and participation in the medical councils do not extend to army and navy surgeons and other government medical officials. The court of honor is chosen from the members of the medical council, but in addition it includes a judge from some ordinary court, which is of great importance with reference to its transactions. The court of honor has as an ethical council the function of settlement of disputes which arise in medical practice in the relations between physicians themselves or between a physician and another person. On the demand of any physician a decision may be rendered as to his conduct. It has also the authority to impose punishments on those physicians who act counter to medical ethics. The punishments of the court of honor consist of warnings, notices, money fines to the extent of 3,000 marks ($720) or temporary or permanent withdrawal of the right to vote or be elected as members of the medical council. The court of honor has also under certain circumstances the right to examine witnesses or experts under oath or to require the courts to examine them. In a case before a court of honor the accused may be defended by an attorney. The governor of the province has the oversight of the court of honor as well as of the medical council. The accused or his representative may appeal from the decision to the superior court of honor, whose chairman is the director of the medical department of the ministry of education.

There was strong opposition at first to the establishment of the courts of honor, especially because it was feared that they would entail a restriction of the liberty of physicians. These fears have so far appeared to be groundless. While naturally many mistakes can not be avoided, still the courts of honor have shown themselves in general very valuable institutions for the maintenance of the ethics of the medical profession. This is especially evident in the matter of advertising, as is shown in the fact that the advertisements of physicians, and especially the notorious bids for the treatment of disease of the genital organs, have completely disappeared from the lay newspapers. But also in the economic conflicts between physicians and the industrial insurance societies the medical councils have proved very beneficial; to a minor degree by means of punishments actually imposed, but for the greater part by the dread of punishment—fear is often the best educator of mankind.

Cholera in Russia.

Our neighbor in the east is already threatening us with the cholera as is usually the case at this time of the year. For a long time the recurrence of epidemics of disease in Russia has been as difficult to prevent as to remove the moral corruption. For the removal of both a complete reformation of the personnel of the officials would be necessary. The set at present in power are easy of approach where money is involved, but not when the progress of civilization is at stake, and they are not capable of carrying out even the best meant reforms in the field of intellectual, moral and physical hygiene. The efforts of Russian physicians to inculcate the principles of modern hygiene among the people are thwarted by the stupidity and malevolence of the officials. It is only characteristic of these conditions that, according to the announcement of the *Petersburg medizinische Wochenschrift*, a few weeks ago the secretary of the national medical association was arrested on account of his pamphlet, "What Must One Know for the Successful Campaign Against Contagious Diseases?" and the entire edition of his pamphlet was confiscated, probably because it contained criticisms of the Russian officials' incapacity and negligence. In this way the Russian bureaucracy is able systematically to hinder the progress of civilization, although Russia is the only country which has a state department that bears the high-sounding title of "Department for the Enlightenment of the People."

With us in Germany everything has been done to prevent an invasion of cholera and to extinguish the earliest foci of the disease, and we may expect that the measures undertaken by the Prussian and the imperial government will be as efficient as in previous years.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, Sept. 16, 1908.

The Cholera Scare.

The outbreak of Asiatic cholera in Russia has caused much perturbation in the districts bordering on Russia, because the commercial and personal relations between Russia and Austria are very intimate. A quarantine of two weeks has been imposed on all travelers from Russia; a careful disinfection of goods coming thence has been ordered; and several articles, such as cereals, meat, vegetables, fruit and hides, have been temporarily forbidden to pass the frontier. The last epidemic of cholera in this country occurred nineteen years ago; it also came from Russia. It was stamped out only after it had caused 273 deaths.

Scarcity of Medical Men in the Austrian Army.

The old-style bureaucracy has seriously hampered the development of the army medical corps. Not less than 320 regimental surgeons are needed. The reason that in spite of the overcrowded condition of the profession in private practice, so many good men refuse to stay in the army is said to be the inferior positions assigned to the medical officers, and the religious and racial prejudices held by those responsible for the conditions. Many physicians in this country are Protestants or Jews; and, besides, there are nine nationalities under one crown. Some generals will not understand that medicine is a science and must be kept free from trivial prejudices. High offers are now being published to students willing to enter the medical corps, on condition that they bind themselves to serve ten years after graduation. Medical associations, however, are explaining the motives which led to the resignation of the military physicians, and it is probable that the army will not have its full complement of doctors until grievances have been redressed.

Fighting Tuberculosis by Caring for Infants.

The idea that tuberculous infection must be combated chiefly by prophylaxis has long been accepted, and only the limited means of those engaged in the crusade has prevented the erection of more tuberculosis sanatoriums than we have at present. The report of the Children's Sanatorium, the first of its kind in this country, illustrated the necessity for beginning the fight at the earliest possible age of the patient. Only children between 3 and 14 years of age were admitted. Of these, 34 per cent. suffered from disease of only one lung; 66 per cent. were infected in both lungs. The parents were tuberculous in 50 per cent.; 55 per cent. were exposed to infection in their homes; and 40 per cent. were threatened both by heredity and by environment. Cases of surgical tuberculosis were not admitted. Each child remained five months in the institution, under the most comfortable and hygienic conditions, free of charge, for only children of the very poor were eligible. The results were most encouraging; 80 per cent. of the patients appeared free from all pulmonary symptoms at their dismissal, 2 per cent. markedly improved, and only 8 per cent. had not been benefited. The increase of weight varied from one to eight kilograms (4 to 25 per cent. of the weight on admission). The report concludes: "It is here, at the very beginning of the infection, at the root of the population, that active interference with disease is most likely to prove beneficial."

Book Notices

MEDICAL GYNECOLOGY. By Howard A. Kelly, A.B., M.D., LL.D., F.R.C.S. (Hon. Edin.), Professor of Gynecologic Surgery in Johns Hopkins University. Cloth. Pp. 662, with 163 Illustrations. Price, $6.00. New York: D. Appleton & Co., 1908.

One opens with considerable interest and some curiosity a volume on medical gynecology by a specialist whose chief distinction in the eyes of the medical world has been his surgical expertness. This volume reveals Dr. Kelly as broad-minded and capable of considering, from various viewpoints, a variety of subjects, a qualification essential for the satisfactory treatment of disease in women. The book is intended chiefly for the instruction of the general practitioner. It would be most appropriate to recommend it also to the multitude of general surgeons and surgical gynecologists who consider the practice of gynecology merely as the performance of operations. The average general practitioner probably gives more attention to the wide range of factors considered by Dr. Kelly in relation to disease in women than does the average surgeon or specialist. Dr. Kelly's influence would have been more beneficent if he had incorporated this medical volume with his surgical volume, which has been so well known for several years. The independent publication of the latter has given younger men too strong an impression that gynecology is entirely a matter of surgery, and has tended to foster an ambition to acquire manipulative dexterity rather than to encourage the study of morbid phenomena in women in their broadest relationships. There should be no real place for the specialist or general surgeon who knows only how to use a knife, whereas there is the greatest need of specialists whose judgment and breadth of knowledge are at least on a par with their surgical skill. A study of the evolution of gynecology reveals a succession of periods in which attention was limited mainly to one predominant disorder or organ. Before the days of the bimanual examination, when every gynecologist wielded the tubular speculum, the supposed great source of pelvic trouble was the so-called "ulceration of the cervix," and there are well founded traditions of large fortunes made by those who devoted their lives to the touching of these diseased areas with various applications. Then, with the discovery of the uterus came the period of displacements, when ill health in women was related to twists and bends of the organ with almost geometric precision. Then came the era of the ovaries, and, finally, that of the tubes. The preposterous claims and theories of many of the foremost representatives of these periods have been utterly destroyed by the researches of modern times. The ideal gynecologist of to-day can not confine his attention to the pelvis. He must be able to investigate the entire structure of woman, especially the abdomen. He must understand the psychology and sociology of sex. He will attain his highest position when his specialty is established broad based on a philosophic attitude, wide culture and scientific knowledge—characteristics which have distinguished the greatest masters of medicine (with all their limitations) in past generations. Dr. Kelly's book is to be highly recommended to younger men who cherish such an ideal.

There is a superfluity of illustrations. Swimming pools and tenement houses are scarcely appropriate subjects for illustrations of a work on gynecology. Moreover, the frequent appearance of the author's face will excite the criticism of readers and may not be interpreted as Dr. Kelly would desire.

INDUSTRIAL AND PERSONAL HYGIENE. By George M. Kober, M.D., LL.D., Chairman of the Committee on Social Betterment of the President's Homes Commission, Professor of Hygiene, School of Medicine, Georgetown University. Report of the Committee on Social Betterment, Washington, D. C.: The President's Homes Commission, 1908.

In 1907 Dr. Kober, during his visit to Berlin, met Dr. E. J. Neisser, who had just completed an International Review of Industrial Hygiene, and who deplored his inability to obtain recent data concerning the work done in the United States for the promotion of the welfare of wage earners. In the work under review, Dr. Kober has endeavored to make up for this deficiency. It is divided into three parts: Industrial hygiene, personal hygiene, and an appendix on the regulation of dangerous trades in England. Occupations are classified with regard to their effect on the health, according as they involve exposure to irritating, infective or poisonous dust; to irritating or poisonous inorganic or organic gases or vapors; to extremes of heat, sudden changes and abnormal atmospheric pressure; to constrained attitudes or over exercise of particular parts of the body; and to accident or injury, as in exposure to machinery, mining, railway service, etc. The employment of women and children, infant mortality in relation to the occupation of women, special measures for the prevention of tuberculosis and the general sanitation of workshops and quarters for employés also receive attention. With regard to general sanitation, the author emphasizes the recommendation of President Roosevelt in his message to Congress in 1907 that the National Government should be a model employer, and insists that model government workshops and efforts for the promotion of the general welfare of the employés would prove a salutary precept and example. There is a description of the German workingmen's insurance system, as well as three sections dealing, respectively, with what the employer may do for the welfare of the employés, what the general public may do, and what the employé may do for himself. The section on personal hygiene considers such subjects as housecleaning, room temperature, insects, bathing, clothing, sleep and the care of special organs of the body. The appendix reproduces the chapter of special provisions for dangerous and unhealthful industries, from the English Factory and Workshop Act, 1901, together with the special rules and regulations issued by government officials in accordance with the authority conferred by the act. The book contains an amount of valuable information of an authoritative character, which will be of service not only to the professional sanitarian, but also, not infrequently, to the medical practitioner, as a means of enlightenment in the causation of obscure conditions really traceable to occupation. It is particularly to be hoped that the federal government will follow the suggestion, that in all its relations with employés, it should appear as a model for private employers of labor.

MODERN MEDICINE: ITS THEORY AND PRACTICE. Edited by William Osler, M.D., Regius Professor of Medicine in Oxford University. Assisted by Thomas McCrae, M.D. Vol. IV. Diseases of the Circulatory System—Diseases of the Blood—Diseases of the Spleen, Thymus and Lymph Glands. Illustrated. Cloth. Pp. 828. Price, $6.00 net. Philadelphia and New York: Lea Bros. & Co., 1907.

Diseases of the circulatory system are discussed by Charles F. Hoover, who writes on general considerations of cardiovascular disease and functional diseases of the heart; by A. McPhedran, who deals with the diseases of the pericardium, by Robert H. Babcock, who writes on the diseases of the myocardium; by William Osler, who writes the chapters on acute endocarditis, diseases of the arteries, on aneurism and diseases of the valves of the heart; the last in association with Alexander G. Gibson, who contributes the chapters on hypertrophy of the heart and on insufficiency and dilatation of the heart. The chapter on congenital cardiac disease is written by Maude E. Abbott; that on thrombosis, embolism and phlebitis by George Blumer, and that on the diseases of the lymphatic vessels by Aldred Scott Warthin. Of the chapters on circulatory diseases that on congenital anomalies deserves special notice because of the large amount of hard and conscientious labor which it represents. Diseases of the blood are described by Richard C. Cabot (general pathology of the blood-forming organs, pernicious and secondary anemia, chlorosis, leukemia); and Joseph H. Pratt (purpura and hemophilia). Diseases of the spleen are discussed by Irving Phillips Lyon, and those of the thymus and lymphatic glands by Aldred Scott Warthin.

As already pointed out in the brief notices of the former volumes of "Modern Medicine," the authors have been selected with much care, and the result is a splendid series of small monographs on special topics in which the respective writers are best at home and to which they have contributed original investigations.

On account of the great variety of the subjects treated, it is out of the question for any single individual to undertake comprehensive and discriminating criticism of the different parts in this volume. The definite impression resulting from rather careful examination is that the actual state of knowledge of the subjects treated is exceedingly well reflected in this volume, and that probably a greater degree of uniform excellence has been secured than in any of the previous volumes.

ADENOMYOMA OF THE UTERUS. By Thomas Stephen Cullen, Associate Professor of Gynecology in Johns Hopkins University. Cloth. Pp. 270, with Illustrations. Price, $5.00. Philadelphia: W. B. Saunders Co., 1908.

This book is devoted exclusively to the consideration of adenomyomata of the uterus. It consists of 262 pages, the first 172 of which are devoted to a consideration of the symptoms and the macroscopic and microscopic findings. In this way the clinical picture and pathologic findings may be easily correlated. At the beginning of each case an epitome is given, and in the succeeding paragraphs the essential features of the case are emphasized by the use of spaced type so that the most essential features may be easily grasped. The clinical picture is described clearly and tersely, and the author comes to the conclusion from an analysis of the symptoms presented by his cases that if a patient gives a history of an ever-increasing flow and if a pelvic examination reveals a moderately enlarged and firm uterus, which on curettage yields a rather thick but normal mucosa, that an adenomyoma may be reasonably suspected.

The author introduces convincing facts to support his theory of the origin of adenomyomata. He does not accept von Recklinghausen's view that the glandular elements of these tumors are derived from the Wolffian duct. He states that all adenomyomata of the uterus in which the gland elements are similar to those of the uterine mucosa, and are surrounded by stroma characteristic of that surrounding normal uterine glands, owe their glandular origin to the uterine mucosa or to Müller's duct, no matter whether they be interstitial, subperitoneal or intraligamentary, whether solid or cystic. This statement is supported by facts adduced in the text. The volume is well illustrated. While it is a book written apparently for gynecologists, it should be read by all engaged in the practice of medicine, as it is a model of careful work in which the clinical symptoms have been carefully analyzed from the viewpoint of pathologic anatomy. It is the authoritative work of to-day on adenomyomata of the uterus.

GRUNDZÜGE EINER SEXUELLEN PÄDAGOGIK IN DER HÄUSLICHEN ERZIEHUNG. *Von Dr.* med. Julian Marcuse. Paper. Pp. 45. Price, 30 cents. Munich: Verlag der Aerztlichen Rundschau (Otto Gmelin.)

"The Principles of Sexual Teaching in Domestic Education" is a small pamphlet devoted to the consideration of the problem: How can the intelligent parent explain the mystery of sex to the child without awakening harmful curiosity, and so as to provide the desired knowledge at the proper time? The author suggests that the instructor take the time when the child begins to ask questions regarding the origin of life and particularly the question, whence babies come, to give the needed instruction. These instructions should convey the truth, but only so much of it as is suited to the child's needs and capacities. The illustrations and examples can be drawn from animated nature, and are present in great abundance in the country, but may be shown the city child during vacations or excursions. The first idea should be the material relations of child and parent without reference to sex, and is drawn from the lowest forms of life. Later the reproduction of flowering plants can be used to indicate sexual relations without dangerous suggestions. As the child grows older the teaching must become more definite until at the age of puberty the sexual process should be understood in all its essentials. This intellectual instruction alone will not suffice and may even be injurious unless accompanied by proper emotional and ethical training, and particularly by the training of the will. The book is very suggestive and would do good in an English translation. The right of translation is, however, reserved.

DIE BEHANDLUNG DER STRAFFÄLLIGEN JUGEND. By Dr. Eugen Neter, *Kinderarzt in Mannheim. Paper.* Pp. 56. Munich: Verlag der Aerztlichen Rundschau (Otto Gmelin), 1908.

No. 30 of the "Physician as Educator" (Arzt als Erzieher) series is hardly medical, but deals from a legal and sociologic standpoint with the question of the proper legal procedure in the case of youths who have broken the law. The author regards it as very desirable that the age at which such children shall be liable to arraignment and conviction of crime should be raised from 14 to 16 years, and notes the tendency in Germany, France and England to modify the law in the direction of greater leniency in dealing with young offenders. The "juvenile courts" of America are described at length, and the author emphasizes the fact that in America the aim of the law in dealing with young criminals is reformation rather than punishment. This principle he urges must be taken into consideration in adapting the institution to German needs. The Danish law, which provides for a greater measure of reformatory effort than is made in Germany, is referred to with approval. The educational institutions for the reform of young criminals ought to be placed in the charge of physicians who have some training as educators. The strengthening of the physical constitution and the acquisition of industrial skill should be made prime objects in the educational courses.

A SHORT PRACTICE OF AURAL SURGERY. By J. Arnold Jones, M.B., Ch. B. (Vict.), F.R.C.S. (Ed.). Hon. Assistant Aural Surgeon to the Manchester Eye and Ear Hospital Cloth. Pp 260, with illustrations. Price, $1.75. New York, John Lane, 1908.

This book gives in concise form the principles and practice of aural surgery. Dr. Jones takes up the important anatomic points; diseases of the external, middle and internal ear; intracranial complications and operations. He lays special stress on after-treatment. There are two appendices: the first contains the more common German terms used in aural surgery, and the second a list of formulas. The book will not in any way replace the larger text-books on this subject, but may be of service to the general practitioner.

OPHTHALMIC SURGERY. By Dr. Josef Meller. *Privat docent* and First Assistant K.K.11, University Eye Clinic, Vienna. Cloth. Pp. 262, with *illustrations*. Price, $3.00. Philadelphia: P. Blakiston's Son & Co., 1908.

We all recognize the great importance of profuse illustrations, particularly where an operation is being described, and in this particular Dr. Meller has succeeded admirably. The illustrations are arranged to show the successive steps of the operations. Throughout the book one's attention is drawn to important points and names by seeing them emphasized in bold-faced type, an excellent time-saving expedient. Insufficient credit has been given to ophthalmic surgeons outside of Germany and Austria, American and English surgeons being particularly neglected. The book is printed in large type on good paper.

ARTERIOSKLEROSE. By Dr. med. O. Burwinkel, Bad Nauheim. Paper. Pp. 23. Price, 18c. München: Verlag der Aerztlichen Rundschau, 1908.

This monograph discusses the etiology, symptomatology, diagnosis and treatment of this affection which seems to be becoming increasingly common. The etiologic rôle of alcohol is minimized by the author, but the danger from the excessive use of tobacco is emphasized. Special stress is laid on the physical characters of the blood, especially its increased viscosity, to which in the author's opinion all processes which cause accumulation of carbon dioxid contribute. The obvious dietetic and hygienic precautions to prevent these conditions are given due prominence in treatment.

BLUTARMUT UND BLEICHSUCHT. Wesen, Ursachen und Bekämpfung. By Dr. Karl Reinold Martin, leit. Arzt des Sanatoriums Lorettoberg, Freiburg i. Br. Paper. Pp. 50. Munich: Verlag der Aerztlichen Rundschau (Otto Gmelin), 1908.

This book constitutes No. 31 of the series, "The Physician as Educator." It is written in a clear and readable style and conveys such information as the laity and especially mothers need to know in order to prevent the oncoming of anemia or chlorosis in their daughters.

Correspondence

Simplicity in Prescribing.

PHILADELPHIA, Sept. 29, 1908.

To the Editor:—In THE JOURNAL, Sept. 19, 1908, page 964, referring to specimen prescription No. 1, I say: "This active ingredient is not indicated on the label" The words "active ingredient" refer to heroin, which, as will be seen, is indicated on the label. I make this correction out of justice to the manufacturer and in justice to the sense of my article.

I still feel, as I attempted to express in my address, that it is a great mistake to use any set formula either from a manufacturer or from any source if that set formula is to be used for a long series of cases. M. H. FUSSELL.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Dr. McCormack in Colorado.

Dr. J. N. McCormack devoted the second and third weeks of September to work in Colorado, speaking in twelve cities and attending the annual meeting of the Colorado State Medical Society. The itinerary was as follows: Fort Morgan, September 6; Greeley, September 7; Denver, September 8 10; Boulder, September 11; Fort Collins, September 12; Grand Junction, September 14; Leadville, September 15; Canon City, September 16: Colorado Springs, September 17; Pueblo, September 18; Cripple Creek and Victor, September 19. The character of the work done and the results achieved were on a par with that in other states which Dr. McCormack has visited. The Grand Junction *Daily Sentinel* says:

> The big meeting held at the Congregational Church was attended by a vast audience of representative men and women of Grand Junction and Mesa County. . . . The reception tendered Dr. McCormack by the people of the city and valley certainly should have proved most gratifying and the keen appreciation shown of the magnificent address delivered and the mighty and all important array of facts presented was certainly most evident. It was an address which should prove of lasting benefit to all who heard it. . . . The medical society of this county is to be congratulated on bringing Dr. McCormack here.

The Fort Collins *Evening Courier* says:

> Dr J N McCormack . . . spoke to a fair sized audience in the college chapel Saturday night, making a strong plea for cooperation of the medical profession and the people in general . . . His address was replete with points that are valuable in dealing with health problems, the keynote being prevention.

The Fort Collins *Morning Express* also characterized the lecture as "advice that undoubtedly left a lasting impression and which it is hoped will result in more healthful population of Fort Collins"

The Leadville *Herald Democrat* says:

> Dr J N. McCormack, of Bowling Green, Ky., spoke last evening before a large and critical audience. His lecture consisted in a plea for organized action to secure better sanitary conditions, better medical practice, better health and better morals; an argument for pure food and drug legislation, and the citation of instances in his own experience and the experience of others in which unnecessary suffering and death had followed because of the absence of proper and even common-sense health and sanitary regulations

Public Policy and the Medical Profession.

Under the above title appears an editorial in the September number of the *New York State Journal of Medicine* which should be widely distributed and carefully read by the intelligent, thinking portion of the public. A summary of the editorial follows:

> One important fact that the public should know is that no great work in process of development means more to the people than the advancement of medical science. If society were wise, it would not place obstacles in the path of this development, but would render it every aid. One of the greatest reflections on the ability of the people to take care of themselves is the fact that most medical and sanitary measures have been secured by the medical profession against strong popular opposition Were it not that medical men have labored unceasingly for laws to prevent diseases, our cities would be riddled by pestilence. Frequently we lose, temporarily, and the public can only be led ultimately by a slow process of education to revise its action and adopt the policy which medicine has advised. The medical profession is the only one whose relations to the public as a whole are for the public good As an organized class, what is recommended by physicians for the public good has the merit of true philanthropy which no other profession or class approaches.
>
> We are not striving for the acceptance of any particular scheme, theory or doctrine, nor laboring to fasten to the state any particular superstition, but are only aiming to learn all that can be learned about the laws of health and to apply them so that pain may be lessened, sickness prevented, physical efficiency promoted, and death prevented. Were society wise, it would give the men who are striving for these things every help Unwisely, it does not. It makes laws to the prejudice of public health; it hinders the adoption of policies for the saving of lives For instance, in every municipality where typhoid fever exists, the medical profession has advised the people what to do to stop it Usually, they have pleaded with them Have they ever advised the people wrongly? No. Has the public ever adopted their recomendations without a vast deal of palaver and delay, while the people kept on dying? No. Is it not a spectacle to be viewed with emotions of pity and shame that in every large community there are people dying who would be well and happy, were the recommendations of the medical profession acted on?

This statement should be placed before every legislator, editor, minister teacher and prominent citizen in the state. Similar editorials or official statements from the organized medical profession should be circulated in every state. The issue should be and must be plainly put before the public that the medical profession has no selfish object in preaching the gospel of health and the prevention of diseases; that modern science makes possible the absolute prevention of many diseases and the restriction of others If the people refuse to avail themselves of the protection offered by cooperation with medical men, then the responsibility should be placed squarely where it belongs, on the people themselves

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR JOHN H BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course]

Second Month.

FOURTH WEEKLY MEETING

II. ACQUIRED IMMUNITY IS CHIEFLY ANTIBACTERIAL.

A. TYPHOID FEVER.

Bacillus typhosus, cultural growth, endotoxin. Pathogenesis, localization of bacillus in body, changes occurring in structures, in organism, effects of endotoxins on body.

Diagnosis by blood examination. Susceptibility and immunity. Acquired immunity, effects on blood serum. Serum therapy, use of antitoxic serum. Vaccination or inoculation, use of vaccine, Wright's method.

B. PARATYPHOID FEVER.

C. ACUTE EPIDEMIC DYSENTERY.

Two bacilli, Shiga and Flexner types: characteristics and differentiation. Distribution in body, pathogenesis, effects of toxins. Immunity. Vaccination and serum therapy.

D. MEAT POISONING FROM BACILLUS ENTERITIDIS.

Bacillus, occurrence in meat, effect of heat, pathogenesis.

E. BACILLUS COLI COMMUNIS.

Characteristics, distribution in body in infections, colon bacillus cystitis, diarrheas.

F. CHOLERA AND PLAGUE.

III. ACQUIRED IMMUNITY IS OF SHORT DURATION

A. PNEUMOCOCCUS INFECTIONS.

Organisms found, distribution in body, entrance of organisms into lung. Immunity. Serum therapy.

B. STREPTOCOCCUS.

Organisms, occurrence and distribution in body, varying infections, pathogenesis. Immunity and susceptibility. Univalent and polyvalent serums. Serum therapy in different infections.

C. STAPHYLOCOCCUS.

Varieties of organism, products, *effect on body, distribution in* body, differs in effect from streptococcus. Serums. Vaccination and opsonic index in staphylococcus infections.

D. GONOCOCCUS.

Characteristics, distribution in body, serum therapy.

E. MENINGOCOCCUS.

Organism, characteristics, pathogenesis. Flexner's serum. Other organisms found in meningitis.

F. INFLUENZA BACILLUS.

Characteristics, distribution in body, pathogenesis, immunity.

IV. CHRONIC INFECTIONS. NO PERMANENT IMMUNITY

A. TUBERCULOSIS.

Organism, virulence, toxic products, "tuberculins," susceptibility, immunity, active immunization, mixed immunization and vaccination. Value of tuberculin in diagnosis.

B. LEPROSY.

C. ACTINOMYCOSIS.

D. OIDIOMYCOSIS.

MONTHLY MEETING

The Present Status of Serum Therapy.
The Practical Value of Vaccines and the Opsonic Index.
Ehrlich's Side-chain Theory.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

REMEDY FOR OFFENSIVE PERSPIRATION

MANKATO, MINN., Sept. 29, 1908.

To the Editor:—So many formulas have appeared in THE JOURNAL and elsewhere for the common and unpleasant affection of excessive and offensive sweating, that I submit the following which has proved of unfailing value in my hands:

R	gm		
Salicylic acid	1	or	gr. xv
Boric acid	10		ʒiiss

M. Sig.: Dust on the feet and into the stockings and shoes every morning.

This is the well known formula of Thiersche's powder. A few applications of the powder is sufficient. It is better than any of the much advertised proprietaries which claim to be "feet ease."

The advantage of this powder over others is that it contains nothing like bismuth, tannin or alum, which invariably become mushy and pasty in the shoes and stockings. JOHN M. EDWARDS.

The Public Service

Army Changes.

Memorandum of changes of station and duties of medical officers, week ending Oct. 3, 1908:

Wolfe, E. P., capt., granted leave of absence for six days.

Stark, A. N., maj., granted leave of absence for one month, about December 15, with permission to apply for an extension of fifteen days.

Carter, W. F., maj., retired from active service on his own application, to take effect July 8, 1909, when he shall have completed thirty years' service.

Lambie, J. S., Jr., lieut., relieved from duty with Co. C, H. C., at the Army General Hospital, Washington, D. C., and ordered to Fort Monroe, Va., for duty.

Johnson, C. W., M. R. C., ordered with troops from Fort Des Moines, Iowa, to tournament at Louisville, Ky.

Wells, F. M., M. R. C., ordered from Fort Robinson, Neb., to St. Joseph, Mo., or duty with U. S. troops.

Eber, A. H., M. R. C., ordered from Fort DeSoto, Fla., to Key West Barracks, Fla., for temporary duty.

Slater, E. F., M. R. C., ordered from Madison Barracks, N. Y., to Plattsburg Barracks, N. Y., for temporary duty.

Tyler, G. T., M. R. C., ordered from Fort Porter, N. Y., to Fort Jay, N. Y., for temporary duty.

Kearny, R. A., Coburn, H. C., and Philips, H. F., M. R. C., placed on active duty; will proceed to Washington, D. C., and report Oct. 1, for a course of instruction at the Army Medical School.

Knox, H. A., M. R. C., assigned to active duty and ordered to *Fort Michie, N. Y., for duty.*

Tignor, E. P., dent. surg., left Fort Jay, N. Y., for duty at Fort Totten, N. Y.

Navy Changes.

Changes in medical corps U. S. Navy for the week ending Oct. 3, 1908:

Turner, H. W. B., and Stanley, A. C., asst. surgs., detached from duty at the Naval Medical School Hospital, Washington, D. C., and ordered to course of instruction at Naval Medical School October 1.

Allen, D. G., asst. surg., detached from duty at the Naval Medical School, Washington, D. C., and ordered to course of instruction at that school, October 1.

Schmidt, L. M., asst. surg., detached from duty at the Naval *Hospital, Annapolis, Md., and ordered to course of instruction at* the Naval Medical School, Washington, D. C., October 1.

Harlan, T., acting asst. surgeon, ordered to course of instruction *at the Naval Medical School, Washington, D. C., October 1.*

Porter, F. E., P. A. surgeon, detached from the Navy Yard, Washington, D. C., and ordered to the naval recruiting station, Detroit.

Boland, M., asst. surg., *detached* from the naval recruiting station, Detroit, and ordered to the *Castine,* when commissioned.

Brown, E. M., asst. surg., detached from the Naval Hospital *Norfolk, Va., and granted* sick leave for three months.

Johnson, L. W., and Shippen, L. P., asst. surgs., ordered to course of instruction at the naval medical school, Washington, D. C., October 1.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Sept. 30, 1908:

Gassaway, *J. M., surgeon, granted one day leave of absence* Sept. 26, 1908.

Mead, F. W., surgeon, leave for one month, granted Aug. 7, 1908, amended to read twenty-seven days from Aug. 26, 1908.

Mathewson, H. S., P. A. surgeon, granted one day leave of absence, Sept. 26, 1908.

Schereschewsky, J. W., P. A. surgeon, directed to proceed *to the Bureau on special temporary* duty.

Ebert, H. G., P. A. surgeon, relieved from duty at San Francisco and directed to proceed to Manila.

Salmon, T. W., *P. A.* surgeon, directed to *proceed to* Stapleton, N. Y., on special temporary duty.

Mullan, E. H., asst. surgeon, relieved from duty at Ellis Island, N. Y., and directed to proceed to Montreal, *Canada.*

Boyd, Frank, acting asst. surgeon, granted four days' leave of absence from Sept. 22, 1908.

Foster, J. P. C., acting asst. surgeon, granted ten days' leave of absence from Sept. 23, 1908.

Goldsborough, B. W., acting asst. surgeon, granted two days' leave of absence from Sept. 29, 1908.

Lyall, R., acting asst. surgeon, *granted* an extension of seven days' leave of absence from Sept. 28, 1908, without pay.

Sifford, M. V., acting asst.-surgeon, granted four days' leave of absence from Sept. 24, 1908, under Paragraph 210, Service Regulations.

Stearns, H. H., acting asst. surgeon, granted four days' extension of leave of absence from Sept. 14, 1908, on account of sickness.

APPOINTMENT.

Dr. S. A. Ransom appointed an acting asst. surgeon for duty at *Shanghai, China,* Sept. 25, 1908.

BOARD CONVENED.

Board of Medical Officers convened to meet at Seattle, Wash., for the purpose of examination of two Chinamen from Steamship *Kumeric.* P. A. Surgeon M. W. Glover, chairman, Asst. Surgeon C. W. Chapin and Acting Asst. Surgeon F. R. Underwood, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been *reported* to the Surgeon-General, *Public Health and Marine-Hospital Service, during the week ended* Oct. 2, 1908:

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 5-12, 4 cases, 1 death.
Indiana: Indianapolis, Sept. 14-20, 1 case; Lafayette, Sept. 16-21, 1 case.

Kansas: Topeka, Sept 13 19 1 case
Massachusetts: Lawrence, Sept 13 19, 1 case
Ohio: Cincinnati, Sept 19 25, 1 case.
Tennessee: Nashville, Sept. 6-13, 1 case
Utah: General, Aug 1-31, 9 cases
Washington Spokane Sept. 6 12, 1 case
Wisconsin Milwaukee, Aug 29 Sept 12, 4 cases

SMALLPOX—FOREIGN

Algeria Algiers, Aug 1 31, 3 deaths
Cape Colony: East London, April 1-15, 5 cases
Egypt: Cairo Aug 19 26, 2 cases
Island of Grenada, Sept. 5-12, 2 cases
Italy: General, Aug 29 Sept 6, 34 cases, Palermo Aug 15 22, 1 case; Piscinola, vicinity of Naples, Sept. 6 13 7 cases
Norway: Christiana, Aug. 22-29, 13 cases, 4 deaths
Peru: Callao, Aug. 31, present
Russia: Moscow, Aug. 22-29, 10 cases, 3 deaths
Straits Settlements Penang, Aug 1 8, 1 case

YELLOW FEVER

Mexico: Merida, Sept 28-29, 2 cases
St Vincent Island Sept 5 12, 2 cases, 2 deaths

CHOLERA

Austria: Tarnopol, Sept 14, 1 case imported
China: Hongkong, Aug 1-15, 4 cases, 5 deaths
Russia: General, Sept 7-14, 2,296 cases, 1,026 deaths, St Petersburg, Sept. 14-28, 508 cases, 203 deaths
Straits Settlements. Singapore, Aug 1 8, 2 deaths

PLAGUE

China. Hongkong Aug 1-15, 14 cases, 10 deaths
India: General, Aug 8 15, 1,167 cases, 825 deaths
Mauritius: Port Louis, May 1 31, 1 case 1 death
Peru: General, Aug 8 24, 30 cases, 13 deaths; Callao, 2 cases 2 deaths; Lima, 4 cases, 1 death
Venezuela: Caracas, Sept. 6, 3 cases, 1 death In hospital, 11 cases

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Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of September, 1908.

ALABAMA
Montgomery, A H, Montgomery

ARIZONA
Ide C E, Tucson

ARKANSAS
McConnell, S P, Booneville

CALIFORNIA
Anderson, C. W, Los Angeles
Force, J U., Berkeley
Gunn, N D, Pacific Grove
Lilley, W. E, Merced
McKown, C L, Niles
Miller, W. P., Fresno
Mitchell, C. O, Laton
Musante, A. S, San Francisco
Sundin, P. O., Los Angeles
Thornton, D D, Los Angeles

COLORADO
Garcia, Arturo, Ward
Sherman, Emma P, Idaho Springs.
Swope, O. W, Hartman

CONNECTICUT
Chipman, E C, New London
Fitzgerald, Edward, Bridgeport

DISTRICT OF COLUMBIA
McAtee, H. C., Washington

GEORGIA
Erwin, H. L, Dalton
Thomas, Logan, Dawson
Whitely, S L, Cedartown

ILLINOIS
Bennett, H. S, Moline
Brands, A. L, Prairie du Rocher
Crosier W McK, Alexis
Dixon, E. F., Mattoon
Fray A V, Chicago
Hancock, C J, Greenup
Heips, W. T., Kewanee
Irvin C H, Sesser.
Jenkins, B D, Macomb
Johnson F, Omaha
Kerber, H C, Chicago
Lachner, B J, Rock Island
Morton V. C., Ipava
Parsons Arthur, Geneseo
Runyon C S, Elvaston
Scott, T. H, Rushville
Swift, H M Mt Vernon
Templeton J S, Pinckneyville
Twitchell B E., Belleville

INDIANA
Baker, C. S, Chrisney.
Butler, W F., Stockwell.
Campbell, R M West Point
Carpenter, C D, Walton
Clark, J. B, Economy.
Coleman, W. H, Evansville
Coverston, J. W., Frankton
Cummine, I S J, Landess
Daniels, E O, National Military Home
Daubenheyer, M F Butlerville
Davidson, W R, Evansville
Drake, Morris, Shelbyville
Elliott, J C, Guilford
Gray, J Lucius Laporte
Hallanan, Joseph Logansport
Houser, B A, Wabash
Johnson, T. B Jamestown
Lett, O A, Newburgh
Lynch, O R, Peru
Lyons F P, Flora
McFarlin C C, Zenas
Martin, H. H, Laporte
Myers, E H, South Bend
Neftner, R T, Weisburg
Nelson O O, Huntington
Osborn G R Laporte
Rawlings C L, New Harmony
Rendel, G F, Mexico
Robertson D W Deputy
Robinson Wilbur, New Alsace
Poss J C, Florence
Saunders I E, Wanatah
Shaw C W, Rising Sun
Sledd S D, Ft Wayne
Smith Louis F J Wabash
Trobaugh W A Cutler
Tucker, A W Logansport
Vogt A W Oldenburg

IOWA
Blything T D Davenport
Boughton C W Missouri Valley
Brown C W Clinton.
Eversmeyer, B E Muscatine
McDonnell John Nashua
Shriver M E, McClelland

KANSAS
Brewer J F, Minneapolis
Brown G W Coffeyville
Colleline F A D Pittsburg
Eckdall, F A Emporia
Funk F R Dresden
Hiss F I Leavenworth
Hunter J. D Ft Scott
Morgan, D I, Emporia
Mullins R B, Dighton
Yates W W Topeka

KENTUCKY
Beck C K, Brownsville
Cassity, J. C, Eminence
Garth, C M, Louisville
Jeffery L A Louisville
McHugh F. M, Louisville
Ribelin, Thompson, Elizaville
Richmond G L Louisville
Wallingford, W H, Mt Carmel

MAINE
Redman F L, Corinna
Russell J P, Robbinston

MARYLAND
Jack W G, Jr Liberty Grove

MASSACHUSETTS
Bain, J. B, Lawrence
French, G H, Winthrop
Hale, Edith, Boston.
Potter, J C, So Framingham
Stinson, J W, Fitchburg
Swift, W B, Boston
Whelan Charles, Hingham

MICHIGAN
Black C D, Lansing
den Bleyker, Walter, Kalamazoo
Bottum C N Marquette
Ferguson, F H, Deward
Goss, G W, Bancroft
Gustin, S E, Bay City
Kimperman, George, Ann Arbor.
Pratt, F A, Centreville
Rogers La Vern, Galesburg
Ruadell, Anna S, Flint
Waldeck, G M Ann Arbor
Wood, N N, Ann Arbor

MINNESOTA
Bolsta Charles, Ortonville
Cassel H E, Litchfield
Ide, A W, Brainerd
Karn, Jacob, Ortonville
Kelly, B U, Aitkin
Kughis, A J, Sauk Center
LaRue, B F Appleton
Peterson, V M, St Paul

MISSISSIPPI
Armistead, J W, Sidon
Maples, C L, Olive Branch

MISSOURI
Cassius S W, Morrisville
Dudley, C R, Hannibal
Glaser, M J, St Louis
Jones, W G, Lincoln
McMurtrey, C T, Kidder
Minnick, A G, Lock Springs
Smith T A, St Louis

NEBRASKA
Christie B W Omaha

NEW JERSEY
Chattin J F, Trenton
Lee T B Camden
Roberts, J E, Camden

NEW MEXICO
Friedman, Maurice Carlsbad

NEW YORK
Banta, F M, New York City
Briggs, C G, Schenectady
Brown, Mary H New York City
Connell, E J, New York City
Davis A B, New York City
Davis, F W, New York City
Hancock, C R, New York City
Jones Catesby Cap, New York City
Ketscher Martin, New York City
Leo S F Yonkers
Long Eli, New York City
Long E H, Buffalo
Matey, E L, Buffalo
McNutt Julia G, Schenectady
Rongimsky, A J, New York City
Stone, W. F New York City
Voorhees, I. W, New York City
Whiting Fred New York City
Weber, L G, New York City
Wells B. H, New York City.

NORTH CAROLINA
Willcox I W, Carthage

OHIO
Fraty B S Moreland
Gardner, A. L, Painesville.
Harrison, F. J., Cambridge.
Kinnaman, K. C, Ashland.
Knapp, G. H., Cincinnati
Knisely, Howard, Toledo
Larimore, H B, Sparta
Markly, E B, Dayton
McClure, R. H, Elyria
McKee, C P., St Marys
O'Hare, M H, Cincinnati.
Parks, T. C, Akron.
Pottz, C. A Baltic
Sampliner W E, Cleveland
Smith, G C., West Salem
Stinchcomb, W G, Bellefontaine.
Wilson, J H, Bellefontaine
Zeis, H J Roundhead

OKLAHOMA
Brown, C P, Chickasha.
Jones S. B, Sallisaw
Roberts, H L, Frederick
Underwood, E L, Crescent.

PENNSYLVANIA
Barsumian, H G, Lancaster.
Boice, E. S, Moores
Bryant F G, Scranton
Klaer, F H, Philadelphia
Kreger O J, Monessen
Meter, F G Reading
Propper, Julius, Philadelphia
Sappington, W F, Webster Mills.

SOUTH DAKOTA
Herron, D A, Platte
Schwartz, Joseph, Sioux Falls

TENNESSEE
Adams N. B, Townsend
Grizzard, R W, Jr, Nashville.

TEXAS
Anderson A M, Kenedy
Haden, H C Galveston
Hoeflich, C. W, Houston
Lawrence W B, Comfort
Loew, H K, Brownsville.
Nesbitt J H, Honey Grove
Samuell W. W, Dallas
Steele J S Texas
Wharton J. W, Lingleville.

VIRGINIA
Kelly, R P, Clinchport

WASHINGTON
Baldwin, T C, Beverly
McKechnie M E A, Seattle

WEST VIRGINIA.
Haley, P A., Charleston
McBee T J, Elkins
West Homer, McMechen

WISCONSIN
Flett Charles, Waterford
Kermott, E P., Hudson
Mitchell E J., Brodhead
Notbohm, W. R, Dousman.
Paterson, J A, Iron River.
Schnetzky, O P, Elkhart

WYOMING
Hoel W M, Monarch

Prophylaxis of Cholera. An article by A Demmler in the *Progres Medical* September 19 calls attention anew to the danger of importation of cholera in clothing He states that emigration is the normal condition of existence for the Jewish population of eastern Germany and western Russia, and that commercial interests take precedence in their minds over all restrictive regulations enacted for purposes of hygiene and for the safety of others Consequently the quarters in Paris where these immigrants and refugees come to join their friends and relatives form gaps in the chain of preventive sanitary measures The new arrivals may not only bring contaminated clothing but they may conceal a mild diarrhea which, notwithstanding its mildness, may yet disseminate the cholera germs Demmler appeals to the authorities to pay special attention to improving the sanitary condition and hygiene of the buildings and the streets in the Jewish quarters as the most urgently needed preventive measure for Paris.

Society Proceedings

COMING MEETINGS.

Assn. of Military Surgeons of the U. S., Atlanta, Ga., Oct. 13-16.
American Assn. of Railway Surgeons, Chicago, Oct. 14-16.
Mississippi Valley Medical Assn., Louisville, Oct. 13-15.
Delaware State Medical Society, Wilmington, Oct. 14.
Vermont State Medical Society, Rutland, Oct. 22-23.
Medical Society of Virginia, Richmond, Oct. 20-23.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Sixth Session, held at Washington, D. C., Sept. 28-Oct. 3, 1908

(Continued from page 1174.)

SECTION I.—PATHOLOGY AND BACTERIOLOGY.

President, William H. Welch, Baltimore; secretaries, Drs. H. C. Ernst, Boston, and William Royal Stokes, Baltimore.

Viability of the Tubercle Bacillus.

Dr. M. J. Rosenau, Washington, D. C., discussed the life of the tubercle bacillus outside the body, and spoke of the absence of spores. He pointed out the effect of waxy substance on the vitality. He mentioned the difficulty of distinguishing between live and dead tubercle bacilli, and said that cultural methods are not applicable. The effect of dead tubercle bacilli in animals was spoken of, and the necessity of resorting to secondary inoculations pointed out. The great discrepancy in experimental results was largely explained by failure to make secondary inoculations. Thermal death-point was well established—60 C. for twenty minutes or less. The short life of cultures under most favorable conditions was contrasted with the long life claimed for the bacilli under favorable conditions. Rosenau discussed the viability of the tubercle bacillus in sputum, soil, water, etc., spoke of the effect of sunlight, dryness, chemicals, heat, decomposition, and reviewed the literature. He referred to the need for further work in this direction and emphasized the practical importance of the subject

The Action of Diffused Light on the Bacillus of Tuberculosis.

Dr. John Weinzirl, Seattle, Wash: The action of direct sunlight on bacteria has been the subject of numerous investigations; the results, however, were obtained by unsatisfactory methods and greatly minimized the effect of this important factor. By making direct exposures, *i. e.*, without the intervention of media, etc., which absorb the light, I have recently shown that non-sporebearing bacteria, including *B. tuberculosis*, are killed by direct sunlight in a remarkably short time, generally between two and ten minutes. It appeared desirable to take advantage of the new method to test likewise the action of diffuse light on bacteria and especially on *B. tuberculosis*. Much has been written regarding the importance of light in dwellings, which must of necessity be largely diffuse light, but up to the present we have no satisfactory data on which to base conclusions regarding the action of diffuse light. The results of this investigation indicate a considerable degree of variation in the powers of resistance shown by different species of bacteria. For example, *B. prodigiosus* is killed by diffuse light within a day, while controls kept in the dark lived five or six days. On the other hand, *S. erysipelatus* showed strong endurance, from five to nine days of continuous exposure being required to kill it: controls endured twelve days and might have lived even longer. Other bacteria tested presented intermediate degrees of resistance. *B. tuberculosis* was always killed within a week, and the shortest time was within twenty-four hours; controls grew for a longer time, but never after ten days. It was thought that desiccation would be the most serious disturbing factor, and hence other controls were placed in moist chambers and exposed to diffuse light; almost invariably these bacteria were killed in a shorter time than the cultures controlled. The problem, therefore, becomes a very complex one, but it appears certain that diffuse light materially shortens the life of the tubercle bacillus, the organism being killed within a week.

Cultural Characteristics of the Tubercle Bacillus.

Dr. Johann von Szaboky, Budapest, detailed a series of experiments, performed by himself, which gave the following results:

1. The luxuriance of growth of tubercle bacilli varies according to the nutritive medium employed. They thrive best on lung-agar, next on sputum-agar, sputum-lung-agar, tuberculous lung-agar; not so well on egg media and somatose-agar. 2. The tubercle bacilli grow best and quickest on the very weak acid media, fairly good on the slightly weak acid, neutral and alkaline media and not well on the markedly acid media: An exception to this are somatose-agar and egg media. On the former they thrived best and quickest when the agar was markedly alkaline, next when it was weakly alkaline and worst when it was acid. When egg media were employed the best cultures were obtained when the reaction was markedly acid, next when it was markedly alkaline, and least when it was neutral. As in the greater number of cultures the rapidity of their development corresponded with the luxuriance of the vegetation, accidental results must be considered excluded in these experiments. 3. The growth was constantly the best on media which were very moist, as lung-agar; worst on egg media, which possesses the least moisture. 4. It is to be supposed that the tubercle bacilli produce a change in the original reaction of the nutritive medium during their growth, as titration has demonstrated that the reaction of neutral media had changed somewhat after the cultures had grown for several days. Such a change of reaction was noted in each series twice. In all the media which could be titrated, with the exception of somatose-agar, the following change was noted: First alkaline, then acid, and finally again alkaline reaction was noticed: in somatose-agar the reverse order was noted.

Routes of Infection in Tuberculosis.

Dr. J. Bartel, Vienna: In animals we are able to demonstrate in the lymph glands, in addition to the manifest tuberculosis with specific tuberculosis changes, a stage of "lymphoid" tuberculosis in which the glands show mainly lymphocytic hyperplasia or are apparently unchanged. The existence of such a lymphoid stage can be demonstrated in man also. Attempts at immunization, performed according to the observation of a possibility of a cure of the tuberculous infection in the lymphoid stage, gave in combination with reinfection the following result: Signs of increased tendency toward, then of increased resistance, and finally of complete immunity. Process of complete cure in organs afflicted with manifest tuberculous changes. Mainly manifest tuberculosis of the lungs with the bronchial lymph glands and cavities in the lungs; but also isolated manifest tuberculous disease of the lungs, the portals of entrance remaining perfectly intact and all opportunity of direct lung infection being excluded. Under certain conditions, therefore, tuberculosis bears the character of a "cryptogenetic" infection. So far as we can judge at this time, the infection from pharynx, stomach and intestines is far more frequent, particularly during early life, than has generally been considered. Of less importance as compared with general hygienic regulations is the constant dispute concerning the more frequent mode of infection, whether due to swallowing or inhalation, inasmuch as it is difficult to judge the relative effects of deglutition and aspiration.

The Predisposition of the Apices of the Lungs to Pulmonary Tuberculous Phthisis.

Dr. Carl Hart, Berlin: Aside from infection, the cause of pulmonary tuberculosis in youthful individuals is to be sought in an individual predisposition due to anatomic and functional disturbance of the normal conditions around the superior aperture of the thorax. These improper conditions may be congenital, hereditary or acquired during life. The predisposition is at first purely local. Actual and functional diminution of the pulmonary apices not only favors the deposition of tubercle bacilli, but also diminishes the natural powers of resistance inherent in the tissues. This predisposition determines the localization of the first tuberculous focus in the pulmonary apices. Local predisposition is equally significant for air, blood and lymphatic infection. The final outcome of the battle between the tubercle bacilli and the tissues depends on the degree of this anatomic and functional disturbance in the region of the superior aperture of the thorax. Children do not exhibit this predisposition of the pulmonary apices to tuberculosis. In older individuals (50 and over) the predisposition is caused almost exclusively by inhibition of the function of the superior aperture of the thorax, due to senile changes. The measures to be employed in combating tuberculosis should be directed, more than has been done in the past, against the development of an individual predisposition.

Enlargement of the Heart and Liver an Early Symptom of Phthisis.

Dr. Simon von Unterberger, St. Petersburg, maintains that the phthisical process is in the lungs, the danger in the heart. A small heart is not a symptom predisposing to consumption. The size of the heart must be determined by percussion according to the Roentgen pictures; no other method is reliable. The relative dulness can be determined only by light percussion. The rapid enlargement of the right heart in phthisis is related to a congenital *anlage* and is embryologically closely connected with congenital predisposition to tuberculosis in general. Exciting causes of the enlargement of the right heart are: obstruction in the lesser circulation, the toxins of tubercle bacilli and other microbes, and the toxins of biologico-chemical products of metabolism. The liver is more sensitive than any other organ in its reaction to enlargement and weakness of the heart. A clear picture of enlargement of the liver, and hence weakness of the heart, is obtained not by palpation, but by percussion from below upward toward the border of the liver. In most cases a congested liver is sensitive to light palpation. Enlargement of the heart and liver forms an important link in the chain of early clinical symptoms of pulmonary tuberculosis.

Heredity in Consumption.

Dr. Simon von Unterberger, St. Petersburg: "The difference between the infectionists and the hereditarians as to the origin of consumption is relative rather than actual, depending on emphasis laid on the organism, on one hand, or on the carrier of infection, on the other. For the genesis of consumption, as of every other disease, a soil (the body) and an exciting cause (tubercle bacillus) are necessary. The latest researches in embryology show us, first, that the chromosomes in male and female ovum cells are of the same number; and, second, that they vary in quality. Chromosomes and their manifold subdivisions correspond to the separate qualities of the fully developed organism. All chromosomes in the human species are inherited, either in manifest or in latent form; in this way we explain the phenomena of atavism. All tendency to disease that appears in any individual is to be regarded as hereditary, whether or no the corresponding disease can be traced back each time to the parents or ancestors. The tendency to consumption is inherited and may be developed by various agencies. Numerous autopsies show that every man over 30 has remains of a tuberculous infection. These facts show how comparatively easily the human organism can overcome the tubercle bacilli, and give the indication for treatment: the strengthening of the organism by hygienic and dietetic means, the details of which have been worked out by the large sanatoria. We must of course seek to destroy the tubercle bacillus as far as possible, but it is utopian to imagine that all the tubercle bacilli in the world can be annihilated. Our chief endeavors must be directed toward strengthening the body.

Tuberculosis of the Lungs and Asthenia Universalis.

Prof. B. Stiller, Budapest: Asthenia universalis is a wide-spread constitutional disease, in the sense that it depends on hereditary tendency. Its attributes are: enteroptosis, nervous dyspepsia, severe disturbance of nutrition without sufficient cause, atony of the stomach with flatulence, intestinal atony, neurasthenia and flaccidity of all tissues. The tendency shows itself in the atonic habit of the child; delicate skeleton: long, flat thorax; oblique ribs; small epigastric angle; and, as a concomitant of the asthenic thorax, looseness of the costal girdle due to congenital defect of the tenth costal cartilage, which produces a floating tenth rib (normally fixed). In nearly all consumptives who present the phthisical habit we find a floating tenth rib and, in a greater or less degree, enteroptosis, nervous dyspepsia, neurasthenia and all the other above-mentioned attributes of asthenia. In from 70 to 90 per cent. of consumptives dyspepsia is nothing but enteroptosis or nervous dyspepsia. So-called pretuberculous dyspepsia is a severe form of nervous dyspepsia, in which tuberculosis is superadded to a severe nutritional disturbance. Freund's sign is only a concomitant of the asthenic habit. The shortening and stiffening of the first costal cartilage doubtless increases the predisposition of the apices, but its etiologic significance has been greatly overestimated as compared with the whole asthenic constitution, which represents the real predisposition. Division of the shortened cartilage for prophylactic or curative purposes is therefore a therapeutic error. The modern hygienic and dietetic treatment of tuberculosis in its true sense is a direct treatment of asthenia and not really of pulmonary tuberculosis.

Transcutaneous Inoculation of Tuberculosis.

Drs. J. Courmont and Lesieur, Lyons, France, from a large number of experiments, draw the following conclusions:

In the case of the guinea-pig, the calf and the rabbit the skin, although apparently intact or deprived of the hair, readily allows the tubercle bacillus to pass through under certain conditions. The principal conditions are the following: The bacillus must be sufficiently virulent; it must be enclosed in sputum, in fecal matter or in (tuberculous) lesions; but even under these conditions the experiment may be successful, especially with sputum containing bacilli. If inoculation is positive the skin reacts in one of three ways: In about one-third of the cases it shows no trace whatever of the passage of the bacilli—the skin has not been injured; in another third it presents merely a little induration or insignificant scabs; these lesions, however, are histologically tuberculous. In another third of the cases warty tubercle, although very small and discrete, is observed. In the case of the guinea-pig and the calf the neighboring glands become tuberculous even in the absence of any cutaneous lesion. In the rabbit the lymphatic system escapes, whether there be a cutaneous lesion or not. General tuberculosis develops most frequently in the rabbit and in the guinea-pig if the bacilli are sufficiently virulent; but is much slower than after subcutaneous inoculation. In the rabbit the local, as well as the general lesions, show a marked tendency to cicatrization. In the guinea-pig, when inoculated on the inner aspect of the thigh, the inguinal glands are more severely involved than the crural glands and frequently suppurate. In addition, the glands on the opposite side become involved more quickly and more often than after subcutaneous inoculation. The glandular lesions from subcutaneous tuberculosis do not coincide accurately with the lesions observed in the transcutaneous form. Many tuberculous infections may result from a transcutaneous inoculation (abrasions, epilations, minute lesions, etc.). This principle should be utilized in prophylaxis. Since the bacilli are capable of passing through the skin without leaving any trace, the absence of a cutaneous lesion is no argument against this mode of invasion. These observations show how variable and unexpected may be the origin of visceral tuberculosis. In addition to the pulmonary and the more frequent intestinal origin, there is a possibility of entrance through mucous membranes and skin. A rabbit presenting pulmonary tuberculosis of transcutaneous origin, without either cutaneous or lymphatic lesions, furnishes an example of tuberculosis originating at a point far removed from the respiratory tract through a port of entry which it is impossible to discover. This is the most important deduction from the experiments. By means of transcutaneous inoculation one can produce experimentally in man either warty cutaneous tuberculosis or the human scrofulo-tuberculous lesions (inoculation with bacilli of low virulence without general infection). This method can not be substituted for subcutaneous or

Society Proceedings

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INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Sixth Session, held at Washington, D. C., Sept. 28-Oct. 3, 1908

(Continued from page 1174.)

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Dr. M. J. Rosenau, Washington, D. C., discussed the life of the tubercle bacillus outside the body, and spoke of the absence of spores. He pointed out the effect of waxy substance on the vitality. He mentioned the difficulty of distinguishing between live and dead tubercle bacilli, and said that cultural methods are not applicable. The effect of dead tubercle bacilli in animals was spoken of, and the necessity of resorting to secondary inoculations pointed out. The great discrepancy in experimental results was largely explained by failure to make secondary inoculations. Thermal death-point was well established—60 C. for twenty minutes or less. The short life of cultures under most favorable conditions was contrasted with the long life claimed for the bacilli under favorable conditions. Rosenau discussed the viability of the tubercle bacillus in sputum, soil, water, etc., spoke of the effect of sunlight, dryness, chemicals, heat, decomposition, and reviewed the literature. He referred to the need for further work in this direction and emphasized the practical importance of the subject

The Action of Diffused Light on the Bacillus of Tuberculosis.

Dr. John Weinzirl, Seattle, Wash: The action of direct sunlight on bacteria has been the subject of numerous investigations; the results, however, were obtained by unsatisfactory methods and greatly minimized the effect of this important factor. By making direct exposures, *i. e.*, without the intervention of media, etc., which absorb the light, I have recently shown that non-sporebearing bacteria, including *B. tuberculosis*, are killed by direct sunlight in a remarkably short time, generally between two and ten minutes. It appeared desirable to take advantage of the new method to test likewise the action of diffuse light on bacteria and especially on *B. tuberculosis*. Much has been written regarding the importance of light in dwellings, which must of necessity be largely diffuse light, but up to the present we have no satisfactory data on which to base conclusions regarding the action of diffuse light. The results of this investigation indicate a considerable degree of variation in the powers of resistance shown by different species of bacteria. For example, *B. prodigiosus* is killed by diffuse light within a day, while controls kept in the dark lived five or six days. On the other hand, *S. erysipelatus* showed strong endurance, from five to nine days of continuous exposure being required to kill it; controls endured twelve days and might have lived even longer. Other bacteria tested presented intermediate degrees of resistance. *B. tuberculosis* was always killed within a week, and the shortest time was within twenty-four hours; controls grew for a longer time, but never after ten days. It was thought that desiccation would be the most serious disturbing factor, and hence other controls were placed in moist chambers and exposed to diffuse light; almost invariably these bacteria were killed in a shorter time than the cultures controlled. The problem, therefore, becomes a very complex one, but it appears certain that diffuse light materially shortens the life of the tubercle bacillus, the organism being killed within a week.

Cultural Characteristics of the Tubercle Bacillus.

Dr. Johann von Szaboky, Budapest, detailed a series of experiments, performed by himself, which gave the following results:

1. The luxuriance of growth of tubercle bacilli varies according to the nutritive medium employed. They thrive best on lung-agar, next on sputum-agar, sputum-lung-agar, tuberculous lung-agar; not so well on egg media and somatose-agar. 2. The tubercle bacilli grow best and quickest on the very weak acid media, fairly good on the slightly weak acid, neutral and alkaline media and not well on the markedly acid media: An exception to this are somatose-agar and egg media. On the former they thrived best and quickest when the agar was markedly alkaline, next when it was weakly alkaline and worst when it was acid. When egg media were employed the best cultures were obtained when the reaction was markedly acid, next when it was markedly alkaline, and least when it was neutral. As in the greater number of cultures the rapidity of their development corresponded with the luxuriance of the vegetation, accidental results must be considered excluded in these experiments. 3. The growth was constantly the best on media which were very moist, as lung-agar; worst on egg media, which possesses the least moisture. 4. It is to be supposed that the tubercle bacilli produce a change in the original reaction of the nutritive medium during their growth, as titration has demonstrated that the reaction of neutral media had changed somewhat after the cultures had grown for several days. Such a change of reaction was noted in each series twice. In all the media which could be titrated, with the exception of somatose-agar, the following change was noted: First alkaline, then acid, and finally again alkaline reaction was noticed; in somatose-agar the reverse order was noted.

Routes of Infection in Tuberculosis.

Dr. J. Bartel, Vienna: In animals we are able to demonstrate in the lymph glands, in addition to the manifest tuberculosis with specific tuberculosis changes, a stage of "lymphoid" tuberculosis in which the glands show mainly lymphocytic hyperplasia or are apparently unchanged. The existence of such a lymphoid stage can be demonstrated in man also. Attempts at immunization, performed according to the observation of a possibility of a cure of the tuberculous infection in the lymphoid stage, gave in combination with reinfection the following result: Signs of increased tendency toward, then of increased resistance, and finally of complete immunity. Process of complete cure in organs afflicted with manifest tuberculous changes. Mainly manifest tuberculosis of the lungs with the bronchial lymph glands and cavities in the lungs; but also isolated manifest tuberculous disease of the lungs, the portals of entrance remaining perfectly intact and all opportunity of direct lung infection being excluded. Under certain conditions, therefore, tuberculosis bears the character of a "cryptogenetic" infection. So far as we can judge at this time, the infection from pharynx, stomach and intestines is far more frequent, particularly during early life, than has generally been considered. Of less importance as compared with general hygienic regulations is the constant dispute concerning the more frequent mode of infection, whether due to swallowing or inhalation, inasmuch as it is difficult to judge the relative effects of deglutition and aspiration.

The Predisposition of the Apices of the Lungs to Pulmonary Tuberculous Phthisis.

Dr. Carl Hart, Berlin: Aside from infection, the cause of pulmonary tuberculosis in youthful individuals is to be sought in an individual predisposition due to anatomic and functional disturbance of the normal conditions around the superior aperture of the thorax. These improper conditions may be congenital, hereditary or acquired during life. The predisposition is at first purely local. Actual and functional diminution of the pulmonary apices not only favors the deposition of tubercle bacilli, but also diminishes the natural powers of resistance inherent in the tissues. This predisposition determines the localization of the first tuberculous focu-

Climate is the sum total of the meteorologic conditions prevailing in a given region over considerable periods of time. The climatic surroundings of the patient have to be considered. Consciously or unconsciously, we select a climate for every patient, even when we keep him at home. That climate is most favorable which most readily permits an outdoor life. A change of climate will be of advantage to a patient if we can thereby place him under meteorologic conditions which to a greater degree than before and more constantly permit him to lead the necessary outdoor life with ease, safety and economy of vital expenditure. The accompanying change of scene and surroundings may be expected to act advantageously in an individual way. In making any proposed change of climate, attention must be given to the facilities in the new region for obtaining suitable food, accommodation, care and medical supervision. If these conditions can be fulfilled in a better climate as well as at home, the patient should be advised to make the change. If the patient's financial, social or domestic circumstances are such that he cannot in the new climate secure proper and sufficient food, accommodation, care and medical attention, or if his mental attitude is such as to make separation from home inadvisable, he should not be sent away.

Diagnosis and Treatment of Early Cases of Tuberculosis.

Dr. Lawrence F. Flick, Philadelphia: Tuberculosis is primarily a lymphatic process; as such it can be diagnosed by reaction and enlargement. Diagnosis of lung tuberculosis in the first stage, before there is destruction of tissue, is difficult. The process does not produce enough of a diseased condition to attract attention. It should be looked for in all persons who have been exposed to contagion. The subjective symptoms in early tuberculosis of the lungs may be cough, hypersecretion of mucus, loss of appetite, malaise and hypersensitiveness of the nervous system. The objective symptoms may be rise of temperature, disturbance of pulse rate, and dilated pupils. The physical signs may be slight bronchiovesicular breathing over the affected area, a pleuritic rub on expiration, increase in tactile fremitus and vocal resonance, slight bronchophony and impairment of resonance. The physical signs should be first looked for over the back over a circumscribed area. Tuberculosis is still early both in time and in prognosis, so long as it is limited to one lobe of one lung, or even to two lobes, provided that there is not much destruction of tissue. In treatment the essentials of treatment are: Properly selected diet, fresh air and such medication as is necessary to restore the organism to its physiologic functions. When the disease is advanced more heroic treatment is necessary. Complete rest in bed should be insisted on for a certain period, comparative rest for a time longer, and after that the patient may be allowed carefully graduated exercise. In the early stage tuberculosis can be treated at home as successfully as in any climate. When proper discipline can not be enforced at home the patient should be sent to a sanatorium in the climate to which he has been accustomed.

The Value of Hemoptysis as a Symptom of Early Pulmonary Disease.

Dr. James M. Anders, Philadelphia: A positive diagnosis of hemoptysis due to commencing pulmonary tuberculosis can not be made unless with certain definite precautions, and a few cases may present temporary doubt. The forms of hemoptysis encountered in diseases other than tuberculosis usually permit of a clear discrimination and will not be considered in the present discussion. In the absence of adequate statistical evidence, much of what is submitted is based on personal observation and conviction. For convenience of study, the subject is discussed under two heads: (*a*) Hemoptysis in early acute forms, and (*b*) in the early chronic forms. It must be recollected that attention is limited in the present discussion to early cases. In acute tuberculous pneumonia, hemoptysis may be the first symptom to arouse a just suspicion of the true nature of the disease process. Initial hemoptysis is infrequent in acute tuberculous bronchopneumonia. This form, however, may supervene during the course of chronic pulmonary tuberculosis, when it is not uncommonly ushered in by blood spitting. Under the chronic forms I considered the symptom in relation to two well-defined clinical types: (1) Chronic ulcerative pulmonary tuberculosis, and (2) fibroid phthisis. In the latter variety it is only in occasional instances that early hemoptysis arises, but when it occurs copious hemorrhage may be witnessed, and affords strong confirmation of its tuberculous origin. My collective investigations embrace a total of 3,506 cases, of which 338, or 9.6 per cent., manifest hemoptysis at the very beginning of the disease. Hemoptysis is present among the more characteristic ushering in symptoms of 25 per cent. of all cases of chronic pulmonary tuberculosis. The value of hemoptysis as a symptom for diagnosis in early pulmonary tuberculosis, with no tendency unduly to magnify its importance, may be quite considerable.

Physiologic Effects of Residence in High Altitudes on Consumption.

Prof. N. Zuntz, Berlin, gave a short abstract of studies on the influence of diminished air pressure and the other factors of mountain climate on metabolism. He called special attention to the changes of nitrogen metabolism and the effect of mountain climate on the quality and quantity of the blood.

Dr. O. Amrein, Arosa, Switzerland, discussed the high altitude treatment of tuberculosis with especial regard to febrile conditions.

Diet in Tuberculosis.

Prof. Irving Fisher, Yale University, New Haven, Conn.: Diet in most consumptive sanatoria is unsystematic and extremely varying; with few exceptions, the food used at any sanatorium is practically the same as that used in neighboring boarding houses and homes. There are important exceptions, however. Taking statistical tables based on data obtained from 95 of the leading sanatoria of the world, of which 63 are in the United States, 2 in Canada, 13 in Germany, 11 in Great Britain, and the remainder in France, Austria, Norway, Switzerland and Russia, it is found that there is great variability in the number of calories consumed, which range from 2,100 to 5,500, or 160 per cent. The variation in the proteid element is equally striking. It may be concluded that 3,000 calories, of which 10 per cent. shall be in the form of protein, are amply sufficient for the daily needs of the ordinary consumptive. An excess of proteid is injurious in tuberculosis because of the resulting intestinal putrefaction and because of the waste products in the oxidation of proteid, which, in the case of meat proteid, are superadded to the waste products already contained in it. There is a strong tendency to-day against an excessive meat and proteid diet in tuberculosis. The change is due to the researches of Chittenden, Folin, Herter, Metchnikoff and others, which have shown that the consumption of proteid in the diet of most western nations is excessive.

SECTION III.—SURGERY AND ORTHOPEDICS.

President, Dr. Charles H. Mayo, Rochester, Minn.; secretaries, Dr. W. D. Haggard, Nashville, Tenn., and Dr. John T. Bottomley, Boston.

Tuberculosis of the Cornea.

Dr. Oscar Dodd, Chicago, pointed out, among other things, that this condition presents a unique clinical picture in that the lesions are of a transparent structure, allowing careful observation of their progress and the effect of treatment. It is nearly always secondary.

The usual forerunner is a swelling at the corneal margin resembling phlyctenular conjunctivitis. This is composed of small foci of epithelioid and giant cells in which the tubercle bacilli are occasionally found. These foci gradually extend into the cornea, and with the general round celled infiltration about them, give rise to the typical clinical picture. Ordinary treatment has very little effect on these conditions, as they last for months, new foci occurring on slight irritation.

Tuberculin injections for diagnostic purposes cause a general and also a local reaction, which is manifested by marked inflammation of the eye, more infiltration into the cornea, and the formation of new foci. By the use of the new tuberculin peritoneal inoculation, either for purposes of diagnosis or for inoculating organs in series.

Percutaneous Infection.

Dr. Isidora Spitzstein, Budapest, detailed the results of experiments made on nine rabbits:

The skin of the abdomen was first carefully shaven; from forty-eight to seventy-two hours afterward portions of a well-tested, virulent pure culture of the human tubercle bacillus were rubbed into this area with the greatest care; the procedure was carried out with such gentleness that even the slightest traumatic injuries of the skin and of the walls of the canals going into its depth (the hair follicles, sebaceous gland ducts) were avoided. One of the animals died after two and one half months, but without development of tuberculosis. The other 8 animals continued to live; 4 were killed after three months and 4 after four months. Neither local nor regional changes could be demonstrated in any of them. Nor could tuberculosis be demonstrated in any of the internal organs. Neither did the kidneys or lungs, which in rabbits are predisposed to the disease to an extent, show any changes. These experiments, which are not by any means finished, lead to the following conclusion thus far: If percutaneous infection is at all possible it certainly is the most unfavorable mode of infection for the tubercle bacillus; in the case of the rabbit particularly so, as it is decidedly refractory to the disease.

Flies as Agents in the Dissemination of Koch's Bacillus.

Dr. C. André, Lyons, France, reported the results of his investigations:

Flies are active agents in the dissemination of Koch's bacillus because they are constantly going back and forth between contagious sputa and feces, and food stuffs, especially meat, fruit, milk, etc., which they pollute by contact with their feet, and especially with their excretions. My experimental researches show the following:

1. Flies caught in the open air do not contain any acid-fast bacilli that could be mistaken for the bacillus of Koch.
2. Flies that have been fed on sputum evacuate considerable quantities of bacilli in their excretions. The bacilli appear six hours after ingestion of the sputum, and some may be found as long as five days later. These flies, therefore, have plenty of time *to carry these bacilli to a great distance, and to contaminate food* in houses apparently protected from contagion, because not inhabited by a consumptive.
3. Food polluted by flies that have fed on sputum contains infective bacilli and produces tuberculosis in the guinea-pigs.
4. Flies readily absorb bacilli contained in dry dust.
5. Flies caught at random in a hospital ward produce tuberculosis in the guinea-pig.

Conclusions.—The sputum and feces of tuberculous subjects must be disinfected; flies should be destroyed as completely as possible; foodstuffs should be protected by means of covers made of wire gauze.

Possibilities of Infection from Table Utensils at Sanatoria.

Dr. J. Woods Price, Saranac Lake, New York, recounted a series of experiments he had conducted:

Forks, spoons, tea cups and milk glasses in constant use by advanced tuberculous patients were used in these experiments. On the first day thirty forks and twenty-five each of spoons, tumblers and tea cups were chosen immediately after ordinary good washing, but not sterilization, and cleansed with sterile 5 per cent. sodium bicarbonate solution by means of sterile cotton swabs, and the washings distributed among 56 guinea-pigs by subcutaneous injection. No knowledge of the intended experiment was conveyed to the hospital nurses or maids. All *pigs were killed in forty-one days,* and found to be free of tuberculous infection. On the second day, several months later, five articles of each sort, immediately after use and before washing of any kind, were cleansed as described above and the washings injected subcutaneously into guinea-pigs, two pigs to each five articles. These animals were killed also in forty-one days after inoculation, and all were found to be tuberculous except those inoculated with the washings from the milk glasses, which developed no lesions whatever. Later the first experiment was repeated with the use of six articles of each kind and the washings distributed among twelve pigs, and with the same result. Smears made on slides from the glands and spleens of all pigs used in the first and third experiments, and examined microscopically for tubercle bacilli, were found to be negative in every instance. While the sterilization of tableware used by consumptives is not to be discouraged, the danger of infection from that source, when sterilization is not possible, does not seem to be great.

Opportunities for Infection.

Dr. S. Metaju, Budapest, related a series of experiments to determine to what degree tuberculous infection can be conveyed to the non-infected through the various factors in the every-day life of a tuberculosis sanatorium. The sum total of light and air, as well as the many provisions to prevent the conveyance of the germ of infection in the conduction of a sanatorium (the careful collection of the sputum, the careful cleansing, the covered state of the cuspidors), seem to attain their purpose.

SECTION II.—CLINICAL STUDY AND THERAPY OF TUBERCULOSIS.

President, Dr. Vincent Y. Bowditch, Boston; secretaries, Dr. William J. Barlow, Los Angeles, and Dr. Guinard, Bligny, France.

X-Ray Examinations in Pulmonary Tuberculosis.

Dr. Francis H. Williams, Boston: The earlier pulmonary tuberculosis is recognized, the greater the percentage of recoveries. Early diagnosis also protects the family of the patient, his co-workers and the community. X-ray examinations are of service in the early diagnosis of tuberculosis; they show the abnormal condition of the lungs, sometimes even before a cough has developed and when there are slight or no physical signs, and may give an earlier indication of the disease than the older methods in use. An *x*-ray examination not only indicates the signs of early disease, but the extent and increase of the disease, or improvement of the patient as well, by showing how much the diaphragm moves in deep breathing, how much the density of the lung or lungs has been increased by disease, etc. Precautionary *x*-ray examinations should be made, especially in young adults, when there is a family history of or exposure to tuberculosis. X-ray examinations may show that tuberculosis probably is not present in cases in which this diagnosis has been made. X-ray examinations are difficult to carry out properly, but are painless and harmless to the patient and have been used in many thousands of cases throughout the world. In the more than twelve years during which they have been employed at the Boston City Hospital no injury has come to any patient. The method should be used in connection with the older methods. X-ray examinations can extend our knowledge of conditions in the chest and give corroborative, more accurate, and sometimes earlier information than the older methods. The appearances in the chest as seen by means of the radiograph and fluorescent screen can now be added to the evidence obtained by the ear.

Comparative Importance of Treatment in Sanatoria Near at Hand and an Entire Change of Climate.

Dr. Frederic J. Knight, Boston: The modern treatment of tuberculosis is directed to the individual affected rather than to the disease. *Sanatorium treatment* is simply the most efficient method of subjecting a patient to proper treatment. We can not strictly compare sanatorium and climatic treatment, as climate is a factor of *all treatment. If the* proposition is as to the relative merits of sanatorium treatment near home and an unrestrained life under *radically changed* climatic conditions, the choice would *usually be for the* former. A radical change in meteorologic conditions is sometimes necessary for its effect on metabolism, but the relative value of the climatic factor will only be determined *by a careful* comparison of statistics of observations made under similar conditions in different parts of the world.

Comparative Value of Change of Climate and of Treatment in Sanatoria Near at Hand in Pulmonary Tuberculosis.

Dr. Carrol E. Edson, Denver, laid stress on an *outdoor* life as one of the essential aids to the cure of pulmonary tuberculosis.

Inoculation of animals should be made subcutaneously with weighed quantities of a culture of the tubercle bacillus. Experience has shown that the best results for infection are obtained with doses of 10 milligrams. Tissue substance must not be used directly, as it contains the tubercle bacilli in irregular distribution. The results obtained thereby are consequently not comparable. It is not practicable to use tubercle bacilli in too large doses, or to make intravenous or intra-abdominal injections, as by such applications non-virulent, or even dead, tubercle bacilli may produce lesions resembling tuberculosis and thus simulate positive results. In the preparation of the cultures it is necessary often, while obtaining the crude material, to exercise every precaution which will serve to prevent contaminating infection either during inoculation or in making the culture. If it is impossible to make a culture of the bacilli immediately from tuberculous organs, and it is usually the case, the material must be first inoculated into guinea-pigs. This is permissible, since it has been proved that a single passage through the body of the guinea-pig does not markedly alter the characteristics of the tubercle bacillus. For infection experiments the culture obtained from the organs of inoculated guinea-pigs must not be too old, and should be used, if possible, in the first or second generation. For determining virulence, rabbits must be used in the place of cattle. In all doubtful cases, however, a test must be made on a corresponding number of cattle. In determining the virulence of the culture of tubercle bacilli it is imperative to distinguish between progressive and regressive processes, and for this reason experiments must be continued for a sufficient time to enable one to make the differentiation with reasonable certainty. If animals are killed too early, it is usually impossible to ascertain whether certain tuberculous processes are of a progressive nature or not. It is well to appreciate that mixed infections by human control tuberculosis may occur. In such cases proper precaution is not taken in animal experiments, and bovine tuberculosis will always gain supremacy and lead to error.

With regard to experiments in feeding phthisical sputum, the following points must be observed: If, under all conditions, sputum contains only tubercle bacilli, the conduct of these experiments would be relatively simple, but every one who has examined it microscopically knows that it is mixed nearly always with particles of food. It may contain milk and butter, which of themselves may harbor the tubercle bacilli derived from cattle. He considers the experimental error caused thereby of such significance that only those experiments of the occurrence of bovine tuberculosis in the sputum can be regarded as conclusive from which this error has been absolutely excluded.

The British Royal Commission, which is engaged in the investigation of the relation between human and bovine tuberculosis, has conducted experiments on the feeding of phthisical sputum to cattle. Three calves were fed over a period of 120 days, during which time each received a total of 30 liters of sputum. A fourth calf received 21 liters in 91 days. After slaughter there were found in these animals isolated calcified nodules, but no traces of the progressive lesions, so characteristic of bovine tuberculosis. On the other hand, a cow was fed with sputum for 209 days. When the animal was killed at the end of this time a progressive tuberculous process was found in the mesenteric and portal glands. Here there appeared to be a positive result of the feeding experiment. However, in simultaneous experiments in one of which a cow was fed the same sputum for 300 days and in the other two pigs, negative results were obtained. Adding to these the four negative experiments on calves and considering other similar experiments previously performed, for example, those by myself and by Moeller in Belzig, I can not but believe that the above result is merely an exceptional case in a large series. The British commission counts this among its positive results. In my opinion, this is not justified. It seems to me highly probable that in this case an experimental error has slipped in and that the cow was infected by tubercle bacilli contained in milk or butter which had been mixed accidentally with the sputum.

Before taking up the results which have been reached by investigations hitherto, I wish to call attention to the following points: Many of my opponents have made strenuous efforts to prove that tubercle bacilli in man and those in cattle can not be of different species, and they imagine that they can thus refute my contentions. I have never held that we are dealing with two distinct species, but have only stated that they differ from each other in certain characteristics which are of the greatest importance in combating tuberculosis. Whether these differences justify one in speaking of special varieties, or even species, is, from my point of view, quite irrelevant. I am concerned only with the practical significance of the differences between human and bovine tuberculosis. Others of my opponents have attempted to refute me by showing that the bacillus of the human type may be transformed into the tubercle bacillus of the bovine type and *vice versa* by passages through animals or by cultivation under artificial conditions. In this connection, I repeat that I am interested only in the practical significance of the difference between the two types of tubercle bacilli.

For combating tuberculosis, it is absolutely without significance what changes tubercle bacilli will undergo after being passed through a series of animals or during cultivation under some artificial conditions. Those men who consume milk and butter do not hold back and make cultural or animal experiments; they eat them in the fresh, unchanged condition. In my opinion, therefore, we are concerned here with the properties of the fresh and unchanged tubercle bacillus only. I do not deny that cultural transformation may be made with these as well as with other bacteria, but this is a question of purely theoretical value.

The results of recent investigations that have come to my knowledge so far may be summarized briefly as follows:

All competent investigators agree that the tubercle bacilli of human origin differ from the tubercle bacilli of cattle, and that consequently we must differentiate between a typus humanus and a typus bovinus. The British Royal Commission also admits the existence of these differences, but, as some of the cultures show definite changes in their characteristics after passage through animals and various cultivations, the members of the commission have differentiated a third group, which they call "unstable." It is not of the slightest difference whether, after animal inoculation or breeding experiments, the tubercle bacillus is stable or unstable. What concerns us is behavior in the fresh condition. I am unable to accept this third group of the British Royal Commission and am satisfied with the admission that the fresh tubercle bacilli of the human type differ distinctly from those of the bovine type.

The tubercle bacilli of the human type are characterized by the fact that they grow rapidly and abundantly in a thick layer on glycerin serum. They are virulent to guinea-pigs, slightly virulent to rabbits, and almost non-virulent to cattle. The tubercle bacilli of the bovine type grow slowly and in a thin layer on glycerin serum; they are of equally high virulence to guinea-pigs, rabbits and cattle. To my knowledge, the bacilli of the human type have never been demonstrated in cattle. The bacilli of the bovine type, on the other hand, can occur in man. They have been found in the cervical lymph glands and in the intestinal tract. With few exceptions, however, these bacilli are but slightly virulent for man and remain localized. The few known cases in which the bovine tuberculosis is said to have produced a general and fatally progressive tuberculosis in man appear to him not to be above suspicion.

One point which seems to me of high importance is that, of all human beings who succumb to tuberculosis, eleven-twelfths die of consumption, or pulmonary tuberculosis, and only one twelfth of other forms of the disease. One would have expected, therefore, that those investigators who are interested in establishing the relations between human and bovine tuberculosis would have searched for bacilli of the bovine type preferably in cases of pulmonary tuberculosis. This, however, has not been the case. Evidently animated by the desire to bring together as many cases as possible of bovine tuberculosis in man, they have investigated particularly cases of gland-

(T. R.) in small doses, the spots disappear, rarely leaving an opacity.

Too large a dose of tuberculin is always followed by an increase of infiltration, taking several days to subside. This shows the care necessary in its use to prevent harm, and bring about increased resistance to the progress of the disease.

DISCUSSION.

Dr. F. H. Verhoeff, Boston, thinks this subject should be considered from the standpoint of the tuberculosis rather than from the part of the eye involved. The ability to care for the tuberculosis is more important than the tissue involved. The condition may be either primary or secondary, but in an individual case it is almost impossible to say whether it is primary or secondary. It is extremely seldom that a case is met with that can be considered as primary. He recalled one case in which an injury of the eye was followed by a nodule in the iris. While this appeared to be a primary tubercular nodule, yet he thought at the time that it was due to a metastasis. The acute type is very rare, and goes on to caseation and rapid destruction of the eye. The chronic type is characterized by a very chronic course, with a tendency to final recovery and recurrence. It seldom goes on to destruction. Dr. Verhoeff considers the treatment of tuberculosis of the eye as very satisfactory. He uses only the old tuberculin, and he has gotten good results. He thinks it essential to get a reaction, either general or local. The patient already has resistance, and all he needs is to have his resistance stirred up. The amount of reaction with the diagnostic dose gives a clue as to the size of dose to use in treatment.

Tuberculosis of the Larynx: The Type which is Capable of Recovery and the Principles of Treatment.

Dr. William E. Casselbury, Chicago: I seek to establish for laryngeal tuberculosis that which is now realized with respect to the pulmonary affection—the fact that certain persons develop a natural resistance, sufficient to "arrest" the disease: and that many more offer a considerable resistance which may only just fail of the degree required for "arrest." It is shown that tuberculous hyperplasia in the larynx can undergo resolution: that unmistakable tuberculous ulcers do occasionally heal: that favorable negative qualities which indicate a superior resistance and more hopeful outlook characterize in common those patients who have proven to be capable of recovery: that after a reasonable period of observation, these qualities persisting, it should be possible to differentiate the cases which are capable of recovery. The common conception of tuberculosis of the larynx is drawn from its harrowing course in about two-fifths of the cases—the unresisting type. Almost two-fifths compose a group in which the laryngeal complication ran a much slower but still fatal course. In one-fifth the lesions are in a state of arrest, of from five to eight years.

Tuberculosis of the Ear.

Dr. Clarence John Blake, Boston, contributed a paper on this subject, which was read by Dr. H. O. Reik, in the absence of the author:

The clinical aspects of tuberculous infection, as manifested in the middle ear, and the consequences evidenced in advanced implication of the temporal bone were described by the earlier writers on otology, but it is only within the past ten years that more precise attention has been given to a form of invasion of the middle ear and labyrinth, characterized by considerable and rapid destruction of all tissues, this being coupled with a peculiar lack of preliminary subjective symptoms. The accessibility of the middle ear cavity to infection, through the medium of the tympano-pharyngeal tube, and the character and location of the soft tissues in the epitympanum explain the more common implication of this cavity, while the peculiarity of the objective symptoms emphasizes the importance of aural examination for purposes of differential diagnosis.

DISCUSSION.

Dr. Charles L. Minor, Asheville, N. C.: I see a great deal of tuberculosis. A few of these patients suffer with chronic otitis, generally discharging, and in these patients I have been unable to find any means of determining whether they are suffering with tuberculosis of the ear or not. I generally treat them on that assumption, but should like to know what means there are of telling whether these patients are tuberculous or not, and also whether they have the same danger as the ordinary suppurative middle ear cases.

Dr. H. O. Reik, Baltimore: Tuberculous suppuration of the middle ear is not so dangerous as suppuration due to pyogenic organisms. Only a small percentage of the patients who develop intercranial complications have a tuberculous history. Tuberculosis of the ear generally occurs in advanced pulmonary tuberculosis. Examination of the pus usually shows a mixed infection. Even if tubercle bacilli are found, we are apt to find also the streptococcus or the pneumococcus present.

JOINT MEETING OF SECTIONS I AND VII.

The Relations of Human and Bovine Tuberculosis.

Dr. Robert Koch,[1] Berlin: The question whether or not human and bovine tuberculosis are identical is of high theoretical interest, but the practical importance of the question which concerns the prevention of tuberculosis is of far greater moment. To Theobald Smith, of Harvard, belongs the credit of having been the first to direct attention to certain differences between the tubercle bacilli found in man and in cattle. In cooperation with Schutz, I undertook a series of experiments for which cattle were selected, these animals being specially suited for such work. The results of these experiments have led me to the conclusions which I first communicated to the British Congress on Tuberculosis in 1901. They are, in substance, as follows:

1. The tubercle bacilli of bovine tuberculosis are different from those of human tuberculosis.
2. Human beings may be infected by bovine tubercle bacilli, but serious diseases from this cause occur very rarely.
3. Preventive measures against tuberculosis should therefore be directed primarily against the propagation of human tubercle bacilli.

I did not expect that my personal views on the relation of human and bovine tuberculosis would be accepted as final, but asked that the experiments of Schutz and myself be repeated. This has been done by a host of investigators. Many sources of error must be considered in research work on tuberculosis, and only work in which those errors have been definitely excluded can be accepted as conclusive. My estimate of the value of the work of others depends on how far these errors have been eliminated. For this reason I summarize briefly the requisites for conclusive forms of differentiation between bovine and human tuberculosis. The animals used for experimentation must be entirely free from spontaneous tuberculosis. Since the earliest stages of tuberculous infection can not be recognized with certainty, the sources of error arising therefrom are only to be overcome by experimenting on long series of animals. This is especially true of investigations on cattle, as in them tuberculin proves the presence of tuberculosis not immediately after infection, but only after the lapse of a certain time. Experiments conducted on too small a number of animals carry no weight whatever. Single exceptions in extensive series of experiments depend, as a rule, on experimental error. They should be valued accordingly or the whole series repeated. During the entire period of investigation the animals must be protected rigidly against tuberculous infection. This applies especially to bovine tuberculosis, as animals are particularly susceptible to this form of the disease, and every experimental error detracts from the results in favor of bovine tuberculosis. Special care must be observed in the separation of the animals which have been inoculated with bovine tuberculosis obtained from man, under the belief that one is dealing with the human form of the disease, and such animals must never be allowed to come in contact with those inoculated with true human tuberculosis.

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[1] Editor's Note: This paper by Dr. Koch outlines his present stand on this subject. His paper and those of others who took part in this symposium created a feeling among the members of the congress that the matter should be further discussed, and accordingly there was called a special conference for informal discussion. The full stenographic report of that meeting, made by The Journal's official reporter, is presented in this issue, beginning on page 1262.

varieties of bovine and human bacilli by means of special methods of culture, which lowered or increased the virulence, or modified the character of the virulence to the point of making it like that of the avian bacillus. In studying the latter I found that the virulence of the avian bacillus can be modified like that of the bacillus of mammals, either by spontaneous or by experimental influences. In conclusion, I wish to emphasize the medical and hygienic lessons to be derived from this study of the variations of virulence. From the medical standpoint, the variations explain the differences observed in the gravity and course of tuberculosis; they show the desirability of possessing prognostic aids as well as experimental methods of diagnosis; and, finally, they throw an interesting light on the significance of the clinical means which we employ to detect the disease. From the standpoint of hygiene, they emphasize the unity and fusion of the classic types and demonstrate the necessity of taking precautions against the tuberculous virus, whatever may be its origin.

Morphology and Biology of the Tubercle Bacilli.

DR. JOHANNES FIBIGER and DR. C. O. YENSEN, Copenhagen, give the results of investigations of a series of tubercle bacilli isolated from man and from cattle, comprising studies on the virulence of the bacilli, their morphology and biology:

The virulence of bacilli on cattle was tested from 29 cases of tuberculosis in man and on rabbits from 22 cultures, 18 isolated from man, 4 from cattle. Morphologic studies of bacilli were made on 15 cultures from man and 13 from cattle. The characters of growth of 29 cultures from man and from cattle were compared. The chemical reactions of bacilli from 32 cultures in glycerin bouillon were tested. The growth of bacilli from 36 cultures on media free from albumin were studied. Summing up the results, we can not admit a sharp separation between the ordinary two well-known types, though it is true that the majority of cultures isolated from cattle possess the qualities described as peculiar to "*Typus bovinus*," and the majority of cultures isolated from human sputum correspond to the "*Typus humanus*." There are some cultures, however, that must be considered as transition forms, having some of the characteristics of the bovine and others of the human type.

Relations of Human and Bovine Tuberculosis.

DR. NATHAN RAW, Liverpool, Eng.: Prolonged and careful experimental research has demonstrated beyond doubt that Koch was right when he affirmed that human and bovine tuberculosis are not identical, but it has been demonstrated that the great scientist was in error when he said that bovine tuberculosis could not be communicated to the human. A large amount of tuberculosis affecting the human body is of bovine origin, and consequently a different line of treatment is required, as compared with the treatment of pulmonary tuberculosis. During the last fifteen years I have had the opportunity of observing over 5,000 patients with tuberculosis, and of this number over 3,000 have died in hospitals. Careful pathologic examinations have been made in a large number of these cases, and my conclusions have been formed from a close study of these clinical and pathologic manifestations. I have no reason to modify my views as set forth in 1903, viz.: "That human and bovine bacilli are divisible into two distinct types of a common species: (1) *Typus humanus;* (2) *Typus bovinus.* Another fact of the most profound importance in studying this problem is, that for centuries man has been accustomed to feed on cattle and their products: milk, butter, cheese, etc., and in this way the human body has become tolerant to bovine tubercle bacilli. I believe that man is attacked by two distinct varieties of tubercle, one conveyed by infection from person to person, the other by receiving into the body bovine bacilli from infected food. In other words, the human body is susceptible to both forms of tubercle. The result of my observations is: (1) Tubercle bacilli of the *Typus humanus* produce: (a) pulmonary tuberculosis, (b) ulceration of intestines, (c) tuberculous laryngitis. (2) Tubercle bacilli of the *Typus bovinus* produce: (a) tuberculous peritonitis, (b) tuberculosis of lymphatic glands, (c) acute miliary tuberculosis, (d) tuberculous joints, (e) tuberculous meningitis, (f) lupus. Clinically, these various lesions seem to be antagonistic to each other, so that a person who has been attacked by *Typus humanus* will not be likely to be attacked by the bovine group, and *vice versa.* This differentiation of the clinical manifestations of tubercle has a most important bearing on treatment. In addition to the accepted treatment by the open-air method, which is of immense value in all forms of the disease, I am convinced that tuberculin is a necessity to eradicate thoroughly the disease from the blood and to produce artificial immunity. Koch's Tuberculin R., or the new tuberculin, in my hands has proved of little value in the treatment of pulmonary tuberculosis, although it is of the greatest possible service in treating all infections of a bovine origin, such as glands, peritonitis, meningitis and lupus. When it is considered that it is prepared from human tubercle, it acts by producing an immunity and is exactly what is observed in immunizing cattle. In the treatment of the human infections, such as pulmonary tuberculosis, a tuberculin prepared from bovine sources is necessary, and in my hands has proved of the greatest assistance, more especially in early cases. Altogether I have treated about 200 cases of tuberculosis by tuberculins. It is my firm opinion that pulmonary tuberculosis is the direct result of inhaling vitiated air, containing tubercle bacilli, or in some cases by absorbing them through the alimentary tract, and that when tuberculosis is eradicated from dairy cows it will be rare even to see a case of surgical tuberculosis in the human subject.

Human and Bovine Tuberculosis.

DR. M. P. RAVENEL, Madison, Wis.: On a correct solution of this question depends the health and lives of many children. I would consider it an extreme misfortune to this and every other country if any impression should go out from the congress that even a small proportion of deaths due to the bovine bacillus is a negligible quantity. I confirm the experiments that have been previously made by Dr. Theobald Smith. Cattle in general have a certain resistance to tuberculosis, this resistance being greater perhaps than the resistance of animals like men. Cattle, therefore, are only susceptible to tubercle bacilli of high virulence. In other words, we have a biologic filtration of the cultures by means of which the feebly virulent cultures are either destroyed by the mechanism of the animal body and the highly virulent type able to produce disease is retained; therefore, the bovine species has filtered out the feebly virulent cultures and retained the highly virulent and given us a type more virulent than the ordinary human type which passes through the animal without producing disease. This is the best explanation I am able to give of the differentiation of these species. The work of Fibiger, Yensen, the British Royal Commission, etc., has proved that this filtration is not absolutely exact. I compare it to sieves of different measures, some of which will retain exceedingly virulent cultures, while others will retain cultures a little less virulent, until we get to the human type. It has been demonstrated that we get grades between the highly virulent bovine type and the feebly virulent human type. I have demonstrated that the tissues of children dying from tuberculosis contain bovine tubercle bacilli. This was done in 1901. Since that time my work has been confirmed by many men in America, by the German commission, by the British Royal Commission, and by Fibiger and Yensen.

There is no reliable method of distinguishing between mutability or change from the one type to the other in the human body, or, at least, the origin of any given culture can not be absolutely stated. I have demonstrated that cows cough up sputum and distribute it exactly as human beings do, and in such sputum I have demonstrated tubercle bacilli corresponding to those of the human type. I do not think the morphologic differences observed in other cultures are persistent in the tissues of animals. One other thing: My work has shown that the tubercle bacillus can pass through the intestinal wall and through the mucous membrane to various parts of the body very rapidly, without leaving any mark of its passage. In some experiments the lung of a monkey was absolutely riddled with tuberculosis, while the intestine ular and intestinal tuberculosis, and have neglected the much more important pulmonary tuberculosis. In spite of the bias under which the researches hitherto have suffered, there yet remains at disposal a sufficient number of investigations of pulmonary tuberculosis to warrant a provisional expression of opinion. The gist of it is that up to date in no case of pulmonary tuberculosis has the tubercle bacillus of the bovine type been definitely demonstrated. If, on further investigation, it should be established that pulmonary tuberculosis is produced by the tubercle bacillus of the human type exclusively, then the question will be decided in favor of the view which I have upheld, and medical men must direct their attention and regulations for combating tuberculosis by all means primarily against the tubercle bacilli of the human type.

On account of the great importance of this question, I intend to undertake, as soon as feasible, experiments along this line on a broad scale. At the same time I wish to make the plea to other tuberculosis workers that as many cases as possible be examined and to join with me vigorously in this task. But I wish to lay stress on the fact that the conditions laid down by me for the carrying out of these investigations must be followed. I consider it possible that in this manner the essential facts for deciding this important question may be collected in about two years and be presented to the next international congress.

The Bovine and the Human Type.

Dr. Theobald Smith, Boston: All investigators are agreed that there exists a sharp distinction between the bovine and the human type of tubercle bacillus, and that the difference can be readily determined by any skilled bacteriologist, and it has been found that perhaps half of certain kinds of tuber losis in children, such as those of the glands of the neck and the abdomen, are due to infection from milk. Recently a doctrine has arisen which assumes the possibility of a transformation of the bovine into the human type of bacillus. I agree with some of the experiments, indicating that these bacilli can be modified to a certain extent, but believe that this modification does not mean a change in type, and that any transformation from one type into the other has still to be demonstrated. Certain illustrations show that tuberculosis in man may be very prevalent when tuberculosis in cattle does not exist. Any regular or wholesale conversion of bovine into human bacilli in the human body is contradicted by most of the evidence presented. The transformation of one type into the other may perhaps be accomplished under very special conditions, difficult to realize in practice, and for the practical sanitarian I believe that the question of transformation will continue to remain an academic one.

Relations of Human and Bovine Tuberculosis.

Prof. G. Sims Woodhead, Cambridge, Eng.: No one, so far as I know, is an opponent of Dr. Koch. All are attempting to solve the problem that he has given them to solve, and if they do not all come to exactly the same results it is perhaps because they do not see facts in quite the same light. The question is an intensely practical one. Had it not been for Dr. Koch, English physicians would not have considered it necessary to take up this question, and they only did so because he took the leading part and differed—as all men must differ until they have studied this question carefully—from the ideas of some of them. They are fully impressed with the importance of observing certain essential points in carrying out such work, and through the assistance of the British government they have been able to isolate and keep apart different sets of experiments. They have been able to confine tuberculosis from a bovine source at one of the farms some distance from the other farm. At a second farm they have been able to carry on experiments with material obtained from human sources, and then at a third laboratory, isolated from the other two, they have been able to carry out, under the supervision of skilled assistants, the examination of the material that was obtained from the two other farms. The greatest care was taken to have these animals thoroughly exempt, if possible, from tuberculosis. The experiments were conducted on a large scale. A large number of cattle were free from tuberculosis. They took all necessary precautions to determine that the animals were non-tuberculous when they began their experiments, so that they attained to the points mentioned by Professor Koch. Then, too, in undertaking the work they thought it was better to continue along the lines indicated by the great leader in bacteriology (Prof. Koch).

In a paper read by Professor Koch before the Tuberculosis Congress in London, he (Professor Koch) stated that he had not been able to find any large number of alimentary cases in Germany. The British observers thought it would be better to examine all such cases as they came across them. They soon found that they could get as large a number as they required, and, therefore, after a time they did not continue to select their cases, but used them as they came forward. From the point of view of the medical officer of health they have found a large number of cases of virulent tubercle bacilli, and have been able to isolate these from the alimentary tract. They found that these tubercle bacilli were sufficiently virulent in comparatively large doses, and in smaller doses, to produce tuberculosis in the bovine, so that they have no doubt of one of two things—either the human tubercle bacillus has been so modified in these cases that it becomes virulent for cattle, or that they have in the human cases, cases that have succumbed to tuberculosis, a bacillus that is also virulent for cattle, and if it were not human it must be bovine. They do not wish any one to accept their opinions or statements on insufficient data. They have published every single experiment; they have given every single examination in detail. They have given the conditions under which the experiments were carried on. They do not pretend to be infallible, but, speaking for the British commission, I would say: "Here is our material; read it for yourselves; draw your own deductions. If you do not agree with us, we must have made a mistake either in our conclusions or in our facts."

The question of modification is not of such little importance as some people seem to think. It must be remembered that infection by the tubercle bacillus is a slow process, and to-day there are those who, because of the long interval between infection and the manifestation of the disease, say they can have nothing to do with one another. The medical profession is indebted to Dr. Koch for the knowledge that they have something to do with one another. Although the process is slow, it is intensely sure. I believe in this process of modification, and agree with Theobald Smith that it is a slow and maybe difficult process, but we are not to assume that because it is slow and difficult it may not occur when we least expect it. Therefore, if we have the tubercle bacillus in a form in which it may produce disease in the human subject, if we have that bacillus ready at any time to pounce down on a weak spot, we must be prepared to get rid of it. If, in the same way, we have a bacillus which may become modified either in virulence or morphologic characters, and we are able to say from experiments that there are gradations in morphologic characters and virulence, we must consider this modification in practical sanitation. In Great Britain physicians are intensely thankful to Professor Koch for directing their attention to this important matter; whatever they may say, they shall never look on themselves as opponents, but are trying to follow along the lines he has indicated and in which he has done such magnificent work.

Unity of the Tubercle Bacillus.

Prof. S. Arloing, Lyons, France: I am a firm believer in the doctrine of the unity of the tubercle bacillus. In order to prove it, I have made a study in the variations in the classical types of the bacillus according to method of growth, morphologic characters and virulence. The experiments made by me in 1884 with regard to human tuberculosis were the first on the subject, and my later experiments showed great differences in virulence in the lesions of all forms of tuberculosis. There is a wide range of virulence in the human bacillus, from a virulence comparable to that of the most active bovine bacilli, to an almost complete disappearance of the power to produce tuberculosis. I succeeded in producing the congress as expressive of the sentiments of the congress and will be so regarded.

Dr. John F. Fulton, secretary-general, at this juncture called the roster of countries.

The delegate of each country thanked the Americans and America for their hospitality, courtesy and kindness extended to them during their stay in Washington.

Visit of President Roosevelt.

President Roosevelt appeared unexpectedly at the closing session of the congress, throwing the great gathering into an uproar of enthusiasm by a speech in which he lauded the members of the medical profession, placing their heroism far above that shown by the soldier on the field of battle. The hall was filled with foreign and American delegates. Men threw their hats in the air and cheered, while the women delegates waved their parasols enthusiastically.

The President showed an intimate knowledge of the fight that is being conducted against the disease all over the world, and of conditions in Central Africa, where the deadly sleeping sickness has been wiping off hundreds of thousands of negroes.

The following is the full text of President Roosevelt's address to the congress:

Address of President Roosevelt.

I could not deny myself the privilege of saying a word of greeting to this noteworthy gathering. It is difficult for us to realize the extraordinary changes, the extraordinary progress, in certain lines of social endeavor during the last two or three generations, and in no other manifestation of human activity have the changes been quite so far-reaching as in the ability to grapple with disease. It is not very long, measuring time by history, since the attitude of man toward a disease, such as that of consumption, was one of helpless acquiescence in what he considered to be the mandates of a super natural power. It is but a short time since even the most gifted members of the medical profession knew as little as any layman of the real causes of disease like this, and therefore necessarily of the remedies to be invoked to overcome them. It is an affair of decades, I am almost tempted to say an affair of years, when we go back to cover the period in which the real progress has been made.

Take, for instance, the work that the United States Government is now doing in Panama. When the first railroad was built across Panama, it was said, with some foundation of truth, and with but slight exaggeration, that every sleeper laid cost a life of a man. Now the work on the canal in that identical place is being prosecuted on an infinitely larger scale, of course, than the mere building of a railroad, under conditions which make the locality stand above the ordinary locality in the United States, in point of health. (Applause.)

The Isthmus of Panama, which was a by-word for fatal disease, has become well nigh a sanitarium, and has become so because of the investigations of certain medical men, which enabled them to find out the real causes of certain diseases, especially yellow fever and malaria, and to take measures to overcome them. The older doctors here, when they were medical students, would have treated the suggestion of regarding mosquitoes as the prime source of diseases like that as a subject of mirth. Isn't that literally true? These utterly unexpected results followed patient, laborious, dangerous and extraordinarily skillful work that has enabled the cause of the disease to be found and the diseases themselves to be combated with extraordinary success. I said dangerous work. That success had its martyrs: doctors laid down their lives to secure the results of which I have spoken, showing exactly as much heroism as ever was shown by the soldier on the field of battle.

At this moment, in the middle of the great continent of Africa, there is a peculiarly fatal and terrible disease, the sleeping sickness—a disease which, if it had been known to our ancestors in the Middle Ages, would have been spoken of as the black death was spoken of in the Middle Ages—as a scourge sent of God, possibly as something connected with a comet, or some similar explanation would have been advanced.

We now know that it is due to the carrying of a small and deadly blood parasite by a species of biting fly, there being this very curious genus of biting flies in Africa; one form of which, although harmless to wild animals and man, carries by its bite a fatal infection to all domestic animals, and even to the closer allies of the wild animals, to which its bite is fatal; while the other form, which does not seem to be fatal to domestic or wild animals, is responsible for the spread of this terrible disease, the sleeping sickness, which in one region killed 200,000 out of 300,000 inhabitants—a rate of slaughter infinitely surpassing that of any modern war.

And the chance to control that disease lies in the work of just such men as are assembled here. You who have come here, however, have come to combat not a scourge confined to the tropics, but what is, on the whole, the most terrible scourge of the people throughout the world. But a few years ago hardly any intelligent effort was made or could be made to war against this peculiarly deadly enemy of the human race. The chance successfully to conduct that war arose when the greatest experts in the medical world turned their trained intelligence to the task. It remains for them to find out just what can be done. The task then will be for the representatives of the government to give all possible effect to this conclusion of the scientific men.

The change in the status of the man of science during the last century has been immeasurable. A hundred years ago he was treated as an interesting virtuoso, a man who was capable of giving amusement, but with whom no practical men dealt, with any idea of standing on a footing of equality. Now more and more the wisest men of affairs realize that the great chance for the advancement of the human race in material things lies in the close inter-relationship of the man of practical affairs and the man of science, so that the man of practical affairs can give all possible effect to the discoveries of the most unforeseen and unexpected character now made by the man of science. (Applause.)

I feel that no gathering could take place fraught with greater hope for the welfare of the people at large than this. I thank you all, men and women of this country and you, our guests, for what you have done and are doing. On behalf of the nation I greet you, and I hope you will understand how much we have appreciated your coming here. (Loud applause.)

Address by Secretary Cortelyou.

Secretary Cortelyou: I would not attempt to add anything to what President Roosevelt has said, were it not that there remain a few words to be spoken which I shall speak in his behalf and at his request.

In the remarks which I was privileged to make at the opening of the congress on Monday, I took occasion to point out the fact that in addition to the subjects which you study and which by your knowledge and your wisdom you clarify and illumine in these great international congresses, there was another aspect of them which it seemed to me was of very great value, and that was the bringing together of men and women from the nations of the earth where they become better acquainted and where by the interchange of views small and even large differences of opinion disappear under the splendid sympathy and unity of action which come through devotion to a common cause. You have spent many busy hours here in the discussion of various phases of the question with which you are dealing. At times, there has been pronounced divergence of views, but just as in the great world of politics public discussion is a helpful sign of public interest, so in this great world of medical science and medical research debatable propositions have disclosed the interest taken in them, and in the vast and important subjects to which they relate.

Along with your work we have tried to provide some relaxation. Many a question of state has been settled at the banquet table, and many a burden lightened where a few were gathered together in friendly companionship, and so I believe such an occasion as the dinner on Thursday evening to be something more than merely a pleasant time, with good cheer and good company.

was either free or showed only the slightest possible lesion. These experiments have been repeated and verified many times. It has been proven that in three and a half hours tubercle bacilli put into the stomach of an animal have reached the lung in large numbers. Most of these cases occur in children. This of itself points to the intestinal tract as a port of entry, and in the proven cases cited by Fibiger of children who have been fed on the milk known to come from tuberculous cattle there have been a striking number of cases of death from tuberculosis.

I have had the unique experience of having an assistant in my laboratory inoculated with a known culture of bovine tubercle bacillus, having excised the lesion and isolated it by passage through guinea-pigs, the same culture having been compared with the original. I have had three cases of cutaneous infection in the laboratory by the bovine tubercle bacillus, and they have acted in all respects like similar lesions due to the human tubercle bacillus. I think it incontrovertible that there is a fair proportion of children and a few adults who have shown bovine tubercle bacilli in lesions. The bovine tubercle bacillus is not infrequently found in tonsils excised at operation. It has been shown that the tubercle bacillus has passed from the intestine into the mesenteric glands and into the lungs in a few hours. Having demonstrated that there are a certain number of cases due to bovine tubercle bacilli, and that a certain number of deaths occur from these bacilli, and, further, having demonstrated that the tubercle bacillus passes into the milk of cattle or gets there from outside sources, it behooves the medical profession to take precautions against contamination of milk. I do not think that it is possible with our present knowledge to determine the proportion of cases due to the bovine tubercle bacillus as compared to that due to the human bacillus. There can be no doubt that at present the human disease is the affection which we must look out for, first and foremost; but I can not agree that the proportion of cases due to the bovine bacillus is insignificant. It is an extremely important factor, and if we are to blot out this disease both sides must be considered. There is no use in keeping the cats out if we let the kittens get in. The kittens will grow up to be cats; therefore, it is important to guard against tuberculosis in cattle not only from a public health standpoint, but because it is a serious economic scourge in every civilized country, with one or two exceptions.

SECTION IV.—TUBERCULOSIS IN CHILDREN—ETIOLOGY, PREVENTION AND TREATMENT.

President, Dr. A. Jacobi, New York; secretaries, Drs. David Bovaird, New York, and Frank S. Churchill, Chicago.

President's Address.

Dr. A. Jacobi, New York: If there be any concourses of more merit and endowed with more beneficent influence in shaping the future of our race than even peace congresses, it is the series of congresses on hygiene and demography, and principally those on tuberculosis, which have met during the last two decades. Tuberculosis has proved the deadliest and most obstinate enemy of them all. Its onset is insidious, its course frequently not suspected or watched, its invasion not prevented on account of the neglect of mucous membranes, its development insured by depressed vitality, its curability ignored, and its fatal termination more favored than palliated. The relation of the physician to the treatment of tuberculosis is two-fold. As the medical adviser of the individual patient he looks for his comfort, advises him in regard to his diet and other hygiene, selects a sanitarium, counsels change of occupation, and utilizes other therapeutic measures. The unity of science has been preached this half century. There must be unity of science and the nation's practice. Men and women must learn that hygiene is no cure, nor mere disinfection; that it means prevention in the life of the individual, in the town, in the nation, in mankind. We trust it may lead to a realization of the fact that a permanent health of the people at large can not be fully attained except by fundamental social and political alterations. As these are far distant, the changes we should wish to enforce can not be otherwise than gradual.

Occurrence of Pulmonary Tuberculosis in the Children of Tuberculous Parents.

Dr. James Alexander Miller, New York: One hundred and fifty children, whose parents were under treatment for tuberculosis at the Bellevue Hospital tuberculosis clinic, were carefully examined, and form the basis of this report. Few of these children were brought by their parents because they seemed ill, and very few had symptoms which were marked enough to attract the attention of their parents. The examinations were made as a routine procedure to find out how many children living in close contact with parents who had advanced tuberculosis would be found to have evidence of disease themselves. Their ages varied from 2 to 15 years, with an average age of 8½ years. It was found that a positive diagnosis of tuberculosis could be made in 76 children or 51 per cent. of all examined: 43 children, or 29 per cent., were considered not tuberculous, and in 31 children, or 20 per cent., the diagnosis was doubtful. It would thus appear from this limited number of cases that approximately one-half of the children of tuberculous parents, living in the tenements at least, probably have tuberculosis themselves. It was found, however, that the diagnosis was difficult, and the evidences of disease slight; and it seemed probable that in the majority of cases with ordinary care the disease would become cured of itself or else be held in check to break out perhaps in later life. The results are significant in suggesting the possibility of infection during childhood being the cause of many cases of pulmonary tuberculosis. The tuberculin tests were used extensively and were found to be reliable.

SECOND AND CLOSING GENERAL MEETING.

Held Oct. 3, 1908.

Hon. George B. Cortelyou, Secretary of the Treasury, called the meeting to order at 11 a. m.

Next Meeting Place.

Dr. Stella, delegate from Italy, invited the Congress to hold its next meeting in Rome, and on motion of Dr. Lawrence F. Flick, Philadelphia, seconded by Dr. A. Jacobi, New York, the invitation was unanimously accepted.

Report of the Committee on Resolutions.

Dr. Livingston Farrand, New York, made the following report:

The Committee on Resolutions presents the following resolutions:

1. The attention of state and central governments should be called to the importance of proper laws for the obligatory notification by medical attendants to proper health authorities of all cases of tuberculosis coming to their notice, and for the registration of such cases in order to enable the health authorities to put into operation adequate measures for the prevention of the disease. We urge on the public and on all governments the establishment of hospitals for the treatment of advanced cases of tuberculosis.

2. We urge the establishment of sanatoria for curable cases of tuberculosis.

3. We urge the establishment of dispensaries, and day camps and night camps, for ambulant cases of tuberculosis which can not enter hospitals and sanatoria. Again, the utmost efforts should be continued in the struggle against tuberculosis to prevent conveyance from man to man of tuberculous infection as the most important source of the disease. Further, preventive measures must be continued against bovine tuberculosis, and the possibility of the propagation of this to man should be recognized.

Resolved, That this Congress endorses such well-considered legislation for the regulation of *factories and workshops, the abolition* of premature and injurious labor to women and children, and the securing of sanitary dwellings as will increase the resisting power of the individual to tuberculosis and other disease; that instruction in personal and school hygiene should be given in all schools for the professional training of teachers; that wherever possible such instruction in elementary hygiene should be entrusted to properly qualified medical *instructors; that* colleges and universities should be urged to establish courses in hygiene and sanitation, and also to include these subjects among their entrance requirements to stimulate useful elementary instruction in the lower schools. That this Congress endorses and recommends the establishment of playgrounds as an important means of *preventing* tuberculosis through their influence on health and resistance to disease.

Secretary Cortelyou: The resolutions to which you have just listened have been adopted by the proper committee of animal of the bovine species, produced a generalized tuberculosis

Professor Koch: I am familiar with the report of Professor Arloing and his claims, but the finding of the bovine tubercle bacillus once in a cavity can not be considered conclusive; that evidence would only be conclusive if the bovine tubercle bacillus were found repeatedly and for a considerable length of time. In this connection I will call attention to the possibility of accidental contamination with milk or butter, or other food products which must always be considered, and even if the bovine bacillus were found in a cavity postmortem, one must think of the possibility of the patient having aspirated during the terminal hours of life some regurgitated stomach contents or some of the contents of the buccal cavity, and in this way infection of a tuberculous cavity with bovine bacillus might have occurred. Such an isolated experiment does not carry the necessary weight, and experiments performed with the greatest exactness, and ruling out the possible element of secondary contamination, would have to be considered.

The Chairman: I will now call on Professor Woodhead to say a few words.

Prof. G. Sims Woodhead, Cambridge, England: I quite agree with His Excellency, Professor Koch, that it may be well for us to keep to one or two points. From my point of view, it is somewhat unfortunate that the second point should have come up for consideration first. I say that because I am not in a position to say very much about the second part, as we have in our second interim report published only that part of our investigations, as regards the bovine type of bacillus, which deal with alimentary tuberculosis or tuberculosis associated in some way or other with the alimentary tract. I quite admit that Professor Koch's criticism as regards that single experiment or a small group of experiments must carry some weight. I may say, that the first experiments made by us were carried out for a considerable length of time, as we intended to feed for such a long period, and we started at once with material which perhaps now we should scarcely accept, but it was material that was taken from the Brompton Hospital for Consumptives. It was strongly impressed on those who had charge of the collection of this material, that it should be as pure as possible, and all possible precautions that could be taken as regards this sputum were taken. It was not a single specimen of sputum. The sputa came from different sources, from selected cases, and therefore we do not lay any very great stress—and I think Professor Koch will bear me out in this—on these cases. They gave, as it were, an indication of what we might expect to find. There is included in the appendix of our report every single experiment that has been made. We have kept nothing back. We have given all details, and we would like those who do not agree with our findings to examine the data on which those findings were arrived at. Therefore, I do not feel in a position to say very much about this question of the *Typus bovinus* in the lung. At the same time, I can assure you, it is a question that has not been overlooked and I can also, I think, assure Professor Koch that the conditions or requirements he laid down have been and are being carefully attended to. We have gone into this matter in as absolutely an impartial state of mind as is possible for five men of somewhat different opinions to do. We have received the assistance of very able men who have looked at this thing from different standpoints. Dr. Eastwood, Dr. Corbett and Dr. Griffith have undertaken a detailed investigation. They have all of them naturally acquired a very great amount of experience in this kind of work. They are fully impressed with the practical points laid down by Professor Koch, and whatever our results may be, I can assure you they have been arrived at by taking into consideration the work of others and comparing it with the work that is being done on our farms. We can not do any great amount of clinical work; that has been impossible as other work has been so important, and when we come to the discussion of the first point that has been suggested I shall have something to say. But I cannot claim that we have done any special work that we can publish at present. We can not claim that we have found any case except the one referred to by Professor Koch. As he has pointed out, there are certain criticisms which are perfectly legitimate, and we do not wish to lay stress on that aspect of the question at all; at the same time, I think it only fair that I should mention what is being done and that we have not lost sight of the point.

Prof. S. Arloing: I know that Professor Koch accepts the reality of the finding of a large number of bovine bacilli in the lung, but he believes that this may have occurred by contamination from food. But I wish to say that this patient was for a long time in a hospital where the bovine type of bacillus should be a rarity, and if contamination took place through the food, such contamination must have been by means of a dried bacillus. But the anatomic contents of the cavity examined, namely, this lung, showed the presence of virulent bovine bacilli in great numbers, so that the finding of the bovine type of bacillus in very great numbers in the lung would show, at least, that human tissue was a very suitable culture medium for the bacillus of the bovine type.

Professor Koch: There seems to be a misunderstanding between Professor Arloing and myself. I do not doubt the statement of Professor Arloing in regard to finding bacilli of the bovine type in the lung but this is only an isolated instance. The contamination I have referred to might have occurred at a lapsed moment.

Prof. S. Arloing: I admit that my researches were not strictly in conformity with all the requirements of Professor Koch, that is, constant and prolonged research in this matter, but these bacilli were found during the life of the patient, and therefore, precludes the supposition of Professor Koch that the occurrence of this infection was at a moment of agony. I wish to repeat, that the multiplication of these bacilli in the tissue shows adaptability of human tissue to the bovine bacillus.

Prof. Theobald Smith, Boston: The question before us is one of methods. In the study of the tubercle bacillus with special reference to its differential characters we would hardly apply the same methods to day which we applied ten or fifteen years ago. Now we must determine not only whether the bacilli associated with a certain disease are bovine or human, but we must guard against being deceived by mixed cultures or by the accidental presence of one or the other type. I think the demand made by Professor Koch a reasonable one. In the final determination of bovine tubercle bacilli as a cause of pulmonary tuberculosis there should be repeated examinations of the same case to find out whether the bovine bacilli actually muitiply there and continue to be shed in sputum. Unfortunately, I am not familiar with the details of the original paper by Professor Arloing, and I am, therefore unable to make any comments on it which may have any weight. However, in a problem of such importance as this, where the existing evidence may be made to point both ways, we must begin over again in the collection of scientific evidence. What has been reported thus far can only be considered presumptive. The presence of large numbers of bacilli in the lungs of the case of Professor Arloing can not be safely used as an argument, because they may have been human bacilli admixed with a few bovine by accident, as Professor Koch points out. We know that there are human bacilli of such low virulence toward guinea pigs that they may be lost after inoculation and only the virulent bovine type persist. Finally, the difficulties and pitfalls surrounding the bacteriologic study of diseased organs in open communication with the air and the digestive tract is well known. The study of lymph nodes presents fewer difficulties.

Dr. Leonard Pearson, Philadelphia: It occurs to me, from the remarks of Professor Smith, it may not be clear that this organism which Professor Arloing discovered in the lung of man was proven by him to be virulent for cattle. It was not a non-virulent organism in the lung, and, according to his understanding, of the bovine type.

Dr. M. P. Ravenel, Madison, Wis.: Am I right or wrong in the belief that the German Commission found the bovine type of bacillus to be the cause in one case of miliary tuberculosis of the lung?

Professor Koch: I have asked for the existence of a case or cases of tubercle bacilli of the bovine type found in consumption, not in miliary tuberculosis.

Dr. Ravenel: Am I right or wrong that the German Commission have published such a case?

Professor Bang: I think you are right.

Prof. Theobald Smith: The two things are wholly different. A generalized tuberculosis could kill long before any tubercle bacilli became ready to be discharged in a case of pulmonary phthisis.

Dr. Ravenel: That may be true, but is not acute miliary tuberculosis of the lung pulmonary consumption?

Professor Koch: It is not.

Professor Fibiger: I would like to ask whether or not Professor Koch remembers a well-authenticated case of bovine tuberculosis in the human subject described by some Hollandish authors?

Professor Koch: I remember the case very well. It was a case of this type that was reported, but it suffered from all the uncertainties touching these investigations carried on at that early date. Moreover, the same objections obtain in this case as in the case of Professor Arloing, namely, it is an isolated instance.

In order to arrive at definite conclusions, the greatest care must be exercised in order that the requirements I have formulated be fulfilled in all cases reported or examined in the future. I do not consider the question as finally decided in one way or the other, although I am very anxious to clear the field of all uncertain and inconclusive evidence, in order that in the future the question may, at last, be definitely decided.

The Chairman: Unless there is objection, we will now pass on to the consideration of the first question, and I will ask Professor Koch to speak on it.

Professor Koch: I would like to ask this question: How often does primary intestinal tuberculosis or mesenteric gland tuberculosis occur in children? It has been said by some that primary intestinal tuberculosis occurring in children is attributable to the bovine bacillus. I claim that this form of tuberculosis is not frequent, and I will cite as authorities Virchow, Orth, Albrecht, Baumgarten and others who have said and still say that primary intestinal tuberculosis is an exceedingly rare disease. (Here Professor Koch quoted extensively from Flügge.*) Certain authors take a different view from that held by Fibiger and Jensen, who claim that intestinal tuberculosis (primary) occurs in 6 per cent. of all patients—11 per cent. of all tuberculous patients, and 16 per cent. for children. Baumgarten claims that these figures are too high and maintains that primary intestinal tuberculosis is a very rare disease. Then there are some figures given by Orth, who claims that in 131 children there was only 1.5 per cent. of unquestioned primary mesenteric gland tuberculosis. Biedert, among 3,104 autopsies on tuberculous children only found primary intestinal tuberculosis sixteen times. Baginski, in 933 cases, did not find primary intestinal tuberculosis in a single instance. Grosser, among 1,407 autopsies on tuberculous subjects, examined in the Tübingen Pathologic Institute, found one single case.

The views, therefore, of pathologic anatomists are decidedly divergent. I have discussed this question with Orth among others, and his personal views certainly differ from the views of the assistants of Heller, so far as autopsies in Berlin are concerned.

I wish to propound this question: How is it such difference can exist? Are we dealing with local differences in the different pathologic material examined in the different cities, or are the variations due to differences of subjective opinion or of subjective interpretation on the part of the various prosectors and pathologic anatomists who are performing autopsies? This question remains open. I consider the questions settled in the sense that according to my judgment and the judgment of other authorities, this condition is a very rare one. When we consider that eleven-twelfths of the people who die of tuberculosis die of the pulmonary variety, and that only one-twelfth die of all other forms put together, and when we consider, that, of this number only a small proportion show a primary mesenteric tuberculosis attributable to the bovine infection, then the concession must be made that bovine infection, absolutely speaking, is a rare clinical entity.

Professor Woodhead: The question raised as to the relative frequency of primary intestinal tuberculosis is surrounded with considerable difficulty. I have no doubt that if we were to ask Professor Calmette to give his views on one side and some of the gentlemen who have taken part in the discussion the other, we would arrive at different results. There must enter into this question the personal element very largely. I must say, when Professor Koch announced in London that primary alimentary tuberculosis is very rare, in fact seldom or never occurred———

Professor Koch: I said it is rare.

Professor Woodhead: While at Edinburgh, as pathologist, I made a large number of postmortem examinations, and I have taken the different records before this question came to the front so prominently (it was back in the eighties) of some 119 cases and have come to the conclusion that 14 per cent. of these were due to alimentary tuberculosis. It first made me think that this might be the result of alimentation and the conditions in that city. I went into the question, and I found what appeared to be confirmatory evidence on this point, that no child up to one year of age became affected, but immediately after that there was a sudden rise in the number of cases. This, of course, is ancient history, but it certainly was a very striking fact to hear that in Germany so few of these cases occurred. A commission was appointed, as you will remember, and we examined 60 cases of tuberculosis of human origin, that is, the material taken from 60 cases. You will remember that we divided the bacilli from these cases into two groups, with a third undifferentiated group. We have not fully made up our minds as to this third group, but we have undoubtedly two very definite groups of bacilli, and we have arrived at the same conclusion as Professor Kossel has, namely, that these must be looked on not as distinct species, but we must take them provisionally as types. We separated 14 cases, which were undoubtedly virulent, from the bovine species. They appeared to have the specific characters of the bovine type of bacillus. We found ten of these were taken from cases in which there were primary lesions, and you may be assured that we are very careful in our selection and description of these cases. They were primary lesions of the abdominal tract. At any rate, we put them down from the evidence we had as being cases of primary abdominal tuberculosis, so that we have ten cases in children from which we were able to separate a special type of bacillus. It was undoubtedly a virulent organism when tried on cattle and rabbits, and it had the general characters. We do not lay quite so much stress on the differential characters as many appear to do, because we find they are sometimes unreliable. We have found also there were three cases of tuberculosis of the cervical glands similar to those described in which we got the same results. These were to a certain extent selected cases, and after what we have heard you may imagine we were very anxious to get a number of these cases of abdominal tuberculosis that were selected. We have found since that we have no need of taking great precautions as we have had a considerably larger number submitted to us than we had any idea of, and so far as our experience goes this form of abdominal tuberculosis is not by any means so rare as stated in many of the statistics cited by Professor Koch. Whether these people are biased—and we are all biased sometimes—or not, I think you will agree with me that five or eight people working together, coming to a common agreement, may be practically unanimous as we have been in all these cases. We regard them as cases of primary abdominal tuberculosis. If eight people looking at the question from somewhat different standpoints differ, then they must be excluded as being of the abdominal type. In connection with these cases—and I should like you to pay special attention to this—we not only used mesenteric glands, but we used lesions at a distance and obtained the same results. When we examined any lesions that were some slight distance from the mesenteric glands, we took not only the mesenteric glands, but anything we considered in the immediate neighborhood which could be associated with these and not be associated with tuberculosis in any other parts of the body. You will understand, therefore, that we feel we have considerable evidence on this point. We have separated the bacillus of the bovine type from the human. It is interesting to note that the German Commission had a case from which they separated this type of bacillus. We have had in addition to those cases 40 cases of different kinds. I give them in order that the opposite side may be estimated. We do not accept these as being of a virulent type, and in calves it gave a generalized progressive tuberculosis. These two types of bacilli are perfectly distinct. We have a local lesion that is characteristic in all cases, and, therefore, we have no hesitation in saying that these were cases of progressive tuberculosis in calves and in rabbits. On the other hand, we have had 40 cases in which the tuberculosis was localized and progressive. It was not of the same type. I can not give the particulars of the cases of tuberculosis of the cervical glands. We had eight mesenteric cases, ten in the lungs or bronchial glands, one case of tuberculosis of the kidney, one of tuberculosis of the testis, and nine cases of tuberculosis of bones and joints. Our experience is that we can not neglect this form of tuberculosis.

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*Heymann (B): Weitere Beiträge zur Frage über die Beziehungen zwischen Säuglingsernährung und Tuberkulose. Ztschr. f. Hyg. u. Infektionskrankh., Leipz., 1908, lx, 424. Also reprinted in Flügge (C.) Die Verbreitungsweise und Bekämpfung der Tuberkulose auf Grund experimenteller Untersuchungen im Hygienischen Institut der Kgl. Universität, Breslau. Veit & Company, Leipz., 1908, page 408.

In connection with the extension of the disease, we have come to the conclusion that it forms a very definite and, therefore, a very important fraction of cases of tuberculosis that come under observation. We do not say that it is so important. No one for a moment can say that it is nearly so important as tuberculosis of the lung. But Professor Koch has pointed out that he considers the solution of this question so important that he is going to give his attention for some time to come toward solving it; that he is going to work to find out whether the bovine type of bacillus has anything to do with tuberculosis of the lung. We are delighted to hear that, because we know if he does undertake this work we will get some results. I can not help believing that if Professor Koch had had the special experience in our country that we have had, he would this morning have taken a somewhat different view as to the importance of this general question. I would ask him, in view of the fact that these results vary so: in view of the fact that we have these differences of opinion as to the portal of entrance: in view of the fact that we are all making an effort to eliminate tuberculosis not only from human subjects, but from animals also, how we can get rid of this disease? We are glad to know that he agrees with us that we can not get rid of it unless we get rid of it in cattle, and I would ask whether it is not worth while combining, until these points are settled, on some definite legislation, or, at any rate, not discouraging legislation which will help us to get rid of tuberculosis not only in the phthisical human individual, but also in the tuberculous bovine animal? If we can not get rid of even a proportion of the cases of tuberculosis in human subjects and in cattle, we know from what we are told and from our experience that the amount of tuberculosis will go on at an increasingly rapid rate unless we can adopt measures to curtail it. I hope, in view of this very great difference of opinion, and in view of the fact that Professor Koch is going to work on this subject, that in the meantime those of us who believe in the infectivity of this matter, it will be considered far more important that we should do something that will do no harm, than to leave something undone which may allow of harm being done.

Dr. Albert Calmette, Lille, France: The requirements of Professor Koch are too stringent to allow definite solution of this question. The experiments made of infecting the aerial route of animals by inhalation of infected dust indicate well known types of pulmonary infection, whether the bovine or the human bacillus be used as the infecting agent. However, in my opinion infection by the digestive route is by far the most important and most frequent. I admit, with many observers, that the bovine bacillus infects the mesenteric glands, for the reason that it has been taken from these glands, cultures made, and found to be the bovine bacillus. However, retention of the bovine bacillus in the mesenteric glands of young children or animals is of rare occurrence. Ordinarily such bacilli penetrate further into the organism and, becoming localized in pulmonary organs, by reason of their development, undergo a change in their morphologic and biologic characteristics and can assume the human type. This transformation, like those of different micro-organisms in different animals, is brought about by prolonged sojourn in each species of animals, the bovine bacillus in chronic tuberculosis of lungs in man being transformed into the human type, and frequently this infection has occurred in the mesenteric glands of children, thus permitting of finding the bovine tubercle bacillus there. The hog is equally susceptible to infection by the bovine type of bacillus or by that of the human type, and inasmuch as polymorphism is so well established in bacteriology, why should it be denied a place in the consideration of the tubercle bacillus?

Dr. Tendeloo, Leyden, Holland: I have examined more than 1.200 bodies for the existence of tuberculous foci anywhere in the body, and I have come to the conclusion that primary mesenteric tuberculosis is exceedingly rare. A great deal depends on the method of examination that is adopted, especially the examination of the lymphatic apparatus, particularly the lymph glands in the lung. Unless the lung is carefully examined, according to the method I will presently describe, small tuberculous foci frequently escape detection. As a preliminary step I always palpate the whole surface of the lung very carefully for the sensation of small caseating foci, or even of small cavities, imparted to the fingers which is much more reliable than purely visual macroscopic evidence. After this is done the lungs are cut with the usual two incisions, and after the pieces are again examined by palpation the whole lung is cut into small pieces and each portion carefully examined. In this way one will be surprised very frequently to find small tuberculous areas that would otherwise surely have escaped detection. If all the cases in which small foci found in the lungs are ruled out as doubtful in regard to a primary mesenteric infection, not to say probably secondary, then only a small number of cases of distinctly primary intestinal tuberculosis will be found.

I want to say a few words in regard to the claim advanced by Professor Calmette, that (bovine) tubercle bacilli may remain in the mesenteric glands without producing any local changes, and may then wander on to the lungs beyond, producing tuberculous lesions in these organs. I do not believe that this is possible. My main argument against this conception is the experiments of Cornet, which, peculiar to say, are not quoted as often as they should be, especially by those who have only made a few animal experiments as compared with the more than 3 000 animal experiments that Cornet undertook. Other researches have confirmed these results. This work is not appreciated enough and is frequently unduly criticised by those least competent to do so. Cornet established the point beyond peradventure that wherever tubercle bacilli are introduced into the body, they either produce a strictly localized tuberculosis, or the tuberculosis involves the regional lymph glands surrounding the area of *infection. It makes no difference into what part of the body* the tubercle bacilli are introduced, into the paw, the tail, or the intestinal tract, apart from intravascular inoculation. On the basis of these experiments, it is exceedingly difficult to understand how the organism of bovine tuberculosis should remain in the mesenteric glands without producing any changes in these tissues, and then cause a tuberculosis in remote organs. The experiments of Calmette, it seems to me, do not sufficiently support his hypothesis. So far as they are clear, the results of postmortem examination on human bodies wholly agree with the experimental results of Cornet.

Prof. J. Fibiger, Copenhagen: I still maintain that according to the statements of the *Gesundheitsamt*, the English Commission, and of Jensen and myself, there is a considerable number of cases of bovine infection in children, especially in intestinal and cervical tuberculosis occurring in children. Opinions vary greatly in regard to the frequency of primary intestinal tuberculosis, but the tendency seems to be more and more towards discovering that these cases are much more frequent than they were formerly believed to be. Dr. Koch has quoted a number of pathologic anatomists, and I will quote the same pathologic anatomists, referring chiefly to the results they have published in the last few years, whereas Professor Koch refers to their figures at an older period. (Professor Fibiger then gave a great many statistical data, referring to the contributions of Baginski, Hansemann, Benda, Orth, the English statistics, of Kingsford, the statistics of Nebelthau, Lubarsch, Harbitz and his own cases, most of them showing a marked increase in the number of cases of primary intestinal tuberculosis occurring in children and reported within the last few years.)

It is quite apparent that there is in this direction a great diversity of opinion, and just how to explain the different figures is difficult. It is possible that differences in the methods of nutrition in different localities can be held responsible, in some places the milk being boiled, in others not, etc. There is no doubt in my mind, if I may repeat what I said before, that primary intestinal tuberculosis in children is a frequent disease. According to the summary of the figures published in the last few years from some hospitals in Kiel, Berlin and Copenhagen, nearly every sixth or seventh child that is examined postmortem in these hospitals has primary mesenteric tuberculosis. If now every sixth child is affected in this way of all children examined, and if about a third of these cases are due to infection with the bovine tubercle bacillus, which I assume is probable, then about every eighteenth child that is examined on the autopsy table is affected with primary bovine intestinal tuberculosis. In other words, about 5 per cent. of all the children that come to autopsy. Professor Koch claims that the number of cases is small. If 5 per cent. of all dead children is not a big figure, what is a big figure?

PROFESSOR KOCH: I still remain unconverted. The most apparent thing to me about this whole controversy is that some pathologic anatomists claim the figures are high, others that they are low. I refer, in support of my view that cases of primary mesenteric tuberculosis are rare, to the immense statistics of Professor Tendeloo which you have just heard. It is not a question of how many cases of primary intestinal tuberculosis are found, but how many cases of this disorder are due to the bovine tubercle bacillus. I refer to the statistics of Professor Gaffky, who during the last two years examined 300 dead children belonging to the hospital of Professor Baginski, who, according to the gentleman who preceded me, is said to have gradually increased his figures as the years go by. Out of the latter's material fifty-three cases were found to be tuberculous, and four cases doubtful, and among all these fifty three not a single instance of bovine infection was found, the patients being afflicted with human tuberculosis. Is this peculiar discrepancy possibly due to the fact that there are fewer cases of bovine tuberculosis in Berlin than in Copenhagen? This question for the present must remain undecided.

So far as the ideas of Calmette are concerned, I have long expected that somebody would advance the argument that bacilli change their character *en route* from the mesenteric glands to the lungs; but this, gentlemen, is a pure hypothesis unsupported by any facts whatsoever and altogether unproved. On the contrary, what we do actually know speaks against this hypothesis, for it may be considered fully established that the bovine tubercle bacillus retains its character for a very long time. I have repeatedly found active virulent bovine tubercle bacilli in old, practically healed, strictly localized and partially calcified glands in which these bacteria must have been vegetating for a very long time. I have also repeatedly had occasion to examine typical wart-like swellings on the hands of employés concerned with the slaughtering of tuberculous cattle. Even after these nodules had been in existence for years on the fingers of these patients bacteria of a strictly bovine type have been isolated from them.

In the great confusion that seems to exist in regard to the whole problem under discussion, I warn, above all things, most strongly against basing any conclusions on a hypothesis that is altogether unsupported.

PROF. THEOBALD SMITH, Boston: I wish to say a few words in regard to the passage of tubercle bacilli through the digestive tract into the lungs without being stopped in the mesenteric lymph nodes. The evidence we have on this problem is based first, on observations in the spontaneous disease, and second, on experiment. In two species, swine and cattle, the spontaneous disease throws much light on this hypothesis. In swine we find that infection occurs almost exclusively through the digestive tract from the milk of cattle. The bacilli produce characteristic lesions in the regional lymph nodes of the throat and the intestinal tract. Lung disease is quite frequent in pigs, but only in the form of miliary or disseminated tuberculosis. This indicates that the tubercle bacilli have been held back and have multiplied in the regional lymph nodes and have reached the blood in a later stage from these nodes. There is no indication that the bacilli pass through the mesenteric nodes without lodging and producing primary disease there. Otherwise we should find only one or at most a few foci in the lungs and no lesions of the lymph nodes of the mesentery. Fifteen years ago I made a long series of autopsies on cattle which had been tested with tuberculin and many of which were in an early stage of the disease in which the throat glands or the mesenteric or the thoracic glands or all three were involved with intact organs. The conclusion which I reached at that time without bias or preconceived theory was that in practically all cases the tubercle bacilli would pass the mucous membranes and the alveoli of the lungs and lodge in the nearest lymph nodes. There could even be observed a close relation between certain regions of the lungs and certain nodes. In later stages when the lungs themselves were involved certain nodes would be found heavily infected from certain definite regions. In cattle and pigs the evidence is thus very demonstrative that the bacilli are held back in the nearest lymph nodes and that they do not pass directly through into the lungs. Finally, in cattle, the aërogenic infection is plainly demonstrated by the fact that the tubercles are confined to the dust-and-pigment-bearing lymph nodes and to the dust-bearing zone thereof, and are not found in those nodes at the apex of the thorax which are free from dust and pigment unless the pleura or the cervical lymph nodes are diseased. To the experimental evidence that feeding bacilli leads to the prompt infection of the lungs there are a number of objections or criticisms to record. These are aimed at the wide departure of the experiments from conditions obtaining in nature. Objections may be raised against, (1) the feeding of very large numbers of tubercle bacilli; (2) the use of bacilli which, through artificial cultivations, have been changed as regards their relation to the invaded tissues; (3) the employment of the dog which species stands in an uncertain relation to human or bovine tuberculosis; and (4) the killing of the animals soon after the feeding before the bacilli have had time to become anchored or fixed in the mesenteric nodes. I believe that the death agony which these experimental animals pass through soon after the feeding would tend to tear away from their temporary location in the lymph nodes the bacilli which would remain there in the natural disease.

PROF. J. G. ADAMI, Montreal: We have now heard the opinions of workers in the various countries regarding the existence of infection by bacilli of the bovine type in man. We now know each others' views, and further discussion of the subject is not going to help us. But there is, I think, a matter that may be brought forward, and I wish to propound this question to his excellency, Professor Koch: In his address before the congress on Wednesday afternoon he stated emphatically that he confined himself to practical rather than to theoretical matters, and promised that during the next two or three years he would devote himself to the study of the incidence of bacilli of the human or bovine type in cases of pulmonary consumption. Granted he does this, and suppose at the end of two or three years he finds—as, for myself, I am fairly sure that he will find—that practically all cases of pulmonary phthisis in man are due to bacilli of the human type, I would ask the question: What practical use is there in the investigation and in this delay? For at the end of the period we shall still be confronted with the problem of the eradication of tuberculosis in cattle, and that because, as he has admitted here and in London, a certain proportion of cases of the disease in man, though not of the pulmonary type, are due to the bovine bacillus. It seems to me, Mr. Chairman, rather unfortunate that both here and in London Professor Koch did not take up the other point, which he has emphasized, namely, that so far not a single case is known in which the human type of bacillus has been found in the bovine organism under natural conditions, and, experimentally, only when we modify the condition and use mixed cultures. Here, as I pointed out two years before Professor Koch's London pronouncement, is a matter that is eminently practical; for it this be admitted, then it is possible to eradicate bovine tuberculosis even when we take no adequate steps to eradicate the human type in man. Granted that human and bovine cases coexist in a locality, the human type will not under ordinary conditions give the disease to cattle. Why not take up a line of work the result of which must be of immediate utility, rather than one which must, when concluded, leave us at most where we started.

PROFESSOR KOCH: I wish to call attention to the fact that the main point of attack ought to be human tuberculosis, since eleven twelfths of individuals have this form of infection. I concede and acknowledge that bovine infection can occasionally occur, and I do not wish to be understood as deprecating the efforts that are being made against the suppression of bovine tuberculosis if for no other than agricultural and general economic reasons. I do not think, however, one is justified in putting that proposition unduly in the foreground as against efforts in the suppression of tuberculosis in human beings.

PROFESSOR FIBIGER: Professor Koch has claimed that a great many of my figures especially apply to cases that were selected. This I deny. They were not selected. The results of Gaffky, to which Professor Koch refers, are not completed, nor have they to my knowledge been published. I can refer, so far as the other point is concerned, to the publications of Kleine, who reports two cases of hand infection in which the bovine bacillus was found.

PROFESSOR KOCH: I object to this last finding as the evidence is not conclusive in any way. These might have been cases of infection with the human bacillus, such as we find frequently as a primary lesion in pathologic anatomies; that such a finding differs very materially from the cases I have mentioned in which very, very virulent bovine tubercle bacilli were found in primary tuberculous lesions after many years.

THE CHAIRMAN: It does not seem to me that we are very far apart. We have human and bovine tuberculosis, both of which are of great importance. There is no question but that the vast majority of cases of human tuberculosis are due to human bacilli. There is a small proportion which are due to either the human or bovine bacillus. The only difference of opinion seems to be with regard to the question as to how large a percentage of that residuum is due to human infection or is due to bovine infection, and the question comes up: Is it possible to arrive at any kind of conclusion in a resolution which will put in form the feelings of the members of this conference in regard to this question. I think that is what should be considered in the few minutes left at our disposal.

DR. LAWRENCE F. FLICK: I wish to inform this conference that a rule has been adopted by the central committee of the congress that no resolutions can be considered which bear on a scientific problem. That would not preclude this conference from adopting a resolution for its own purpose, but I do not believe that such a resolution could be presented to the congress itself. That rule has been made so absolute that the committee on resolutions, to which all resolutions will have to go, is not itself permitted to consider or receive a resolution bearing on a scientific problem. I merely give you this information in case any resolution is proposed and adopted here.

THE CHAIRMAN: This is not a section of the congress but a conference of members.

PROFESSOR KOCH: Gentlemen, we are dealing exclusively with a purely scientific subject, and the questions at issue can not be solved by any resolution. It is a matter of fact and not of opinion. I for one most energetically refuse to participate in any resolutions that may be passed on this subject.

PROFESSOR WOODHEAD: I look at this matter from a practical point of view. While we can not settle these scientific questions definitely, as Professor Koch has pointed out, still we all agree that there are certain definite practical data we have at our command, and some resolution might be drawn up dealing with this purely from scientific aspects. The question which Professor Koch has pointed out is of minor importance when we come to deal with this more practical question.

DR. EASTWOOD, England: I think it would add greatly to the value of this discussion if this conference here and now gave definite answers in the shape of yes or no to three simple definite, practical questions, with a view to obtaining an expression of opinion, so that a suitable resolution may be prepared for presentation to the congress at the general meeting to-morrow morning. The questions are these:

1. Is the danger of bovine tubercle bacilli to human health so slight as to be practically negligible?

2. Does the consumption of milk containing living bovine tubercle bacilli cause a progressive amount of disease or death in children?

3. Is the obtainment of milk supply free from bovine tubercle bacilli an object which will materially aid the crusade against tuberculosis?

PROFESSOR KOCH: We have not been discussing this subject at all, and it is not permissible to draw up a set of resolutions in this meeting relating to subjects of a purely practical character that are not germane to the subjects that have been discussed to-day. I must repeat, I wish to be definitely excluded from any resolutions.

DR. LEONARD PEARSON: It occurs to me that we have an exceedingly grave responsibility in this matter. It was announced in London in 1901, or the impression was conveyed, that Professor Koch took the position that bovine tuberculosis is not transmissible to man, and that measures directed against bovine tuberculosis are of no importance to the public health. Now, it has been shown by the statistics cited by Professor Fibiger that in Berlin, if we accept Baginski's work in reference to the prevalence of primary intestinal tuberculosis, it has increased very much since the year 1901. How much of that increase can be traced to the breaking down of precautions on the part of milk consumers as a result of the statement made in London in that year, I do not know. I do know, as one who is practically interested in this work, that nothing in the world has interfered so much with the control of tuberculosis in cattle as the London address of Professor Koch, which was reiterated in Berlin and which has not been reiterated here because he takes a different position, but nevertheless the position he holds here is going to continue to interfere most seriously with the control of bovine tuberculosis and with the removal of such danger to mankind as results from the prevalence of bovine tuberculosis. The questions propounded by Dr. Eastwood are eminently practical. They directly concern the practical importance of administration, and I for one should be glad if this meeting, which is not the congress, or a session of the congress, would express itself and answer yes or no to each of these questions. If we are not prepared to answer these questions, who is prepared to do so? Where can we find a better jury than right here, and when is there a better time than right now? I wish to second the resolutions offered by Dr. Eastwood.

The resolutions were also supported by Dr. Nathan Raw, Liverpool, England.

THE CHAIRMAN: This conference was called at the suggestion of Professor Koch to discuss these questions in a scientific way and informally between ourselves, in order that there might be a clear understanding of the position of the various men who are actually engaged in this work. He introduced the discussion this morning by a statement that he was not prepared to take up the question of resolutions and he has reiterated that now. It seems to me that that is a subject we can not properly consider here unless it is with his full sanction and approval. If there is any practical side to this which he feels can be put in the form of a resolution with reference to the relationship between human and bovine tuberculosis, then it can be brought before us. Unless there is some such resolution, then, it seems to me, the question of resolutions must be excluded from our conference.

Dr. Lawrence F. Flick: I rise once more to call attention to the point that any resolutions offered here can not be presented to the congress. There were certain conditions on which this conference was arranged, namely, it was to be an absolutely confidential conference in which nothing would be given to the lay public. Where is the practical part to come in without a breach of contract if resolutions be adopted which in any way can be given to the public?

In other words, this debate has gone on for the purpose of mutual enlightenment and in order that each one may get the benefit of the knowledge of all others and may carry on his work further; but in my judgment, it would be a distinct breach of confidence and of contract if the conditions which were laid down by Professor Koch, and the conditions which were agreed on before this conference was had, were not absolutely lived up to, and I would beg of you not to raise this embarrassing question of a breach of contract, because that is, after all, what it amounts to in adopting resolutions here and giving them to the public.

Prof. Theobald Smith: There are certain difficulties which these resolutions will bring forth unless they are made more explicit. If they are adopted and published we will certainly be asked what specific measures we recommend for the elimination of danger to human beings. In this country we have been more or less at sea as to the proper measures which should be applied. In some states we began by killing all reacting animals, but this gigantic task was soon abandoned. In many localities there is at present no supervision whatever.

To remedy this state of affairs and to prevent so far as possible the application of extreme procedures, I would recommend that the resolutions state clearly what measures we wish to have embodied in laws and regulations as just and proper and in accordance with the present state of our knowledge of the disease.

Dr. M. P. Ravenel: I do not see that there is any breach of confidence or breach of contract by making known to the scientific world the proceedings of this conference. We understand that this is a private conference, but there is no reason why we can not and should not express ourselves freely with reference to the matters that have been discussed. I do not think anyone proposes to make the proceedings known to the lay public. Dr. Eastwood has simply asked that the conference take a vote expressing its opinion with reference to the questions he has propounded.

Professor Arloing: I think we should all be permitted to express our opinions freely at this conference. I believe we are unanimously agreed (and Professor Koch has conceded it) as to the possibility of contamination of man by bovine tuberculosis. Furthermore, the general necessity of measures to suppress tuberculous infection is conceded, and I think it would be well if this entire assembly should unanimously state those things which we all concede, as it would go far in accomplishing results. It is not my understanding that this is a secret conference in the manner alluded to by Dr. Flick, because the publication broadcast of the results of this conference through proper channels would be a good thing. In voting on these questions I take it that we would vote for the welfare of the public, and it is of public interest that these proceedings should be published. My dignity would not permit me to be bound to silence on a matter of the public welfare by reason of the objection of one individual. I think our sense of dignity requires that the proceedings of this conference shall be made public.

Dr. Eastwood: In view of the objection which has been raised against my suggestion to formulate a resolution for presentation to the congress, it will facilitate matters if I withdraw that part of the proposition and simply ask that a vote be taken among ourselves on the three questions which I have proposed to you.

Professor Koch: I have no objection whatever to the publication of a verbatim report of this meeting. Why should I object to a statement that I now admit that bovine tuberculosis can be trasmitted to human beings, when, as a matter of fact, I never denied it? I propose, then, gentlemen, that after due review by each speaker of the stenographic report that will be submitted of these proceedings, this report be published, but merely as a simple rendition of the words spoken, the facts adduced, and the opinions expressed; but not in the form of any resolution whatsoever, particularly not in the form of resolutions relating to subjects that have not been discussed at all.

Dr. Flick: I wish to correct a misunderstanding on the part of Professor Arloing. It was clearly understood that the stenographic report taken of everything said should be submitted to each man who has spoken, and that when that has been submitted and has been revised by the men who have made statements, it shall be published in the transactions of the congress and given to the world in a dignified manner. But what the conference is not willing to do is to give the proceedings of to-day to the newspapers, in which the speakers may be misrepresented. This is not a secret meeting in the sense that what has been said should not be published. It will be published, but under scrutiny and in such a careful manner that no speaker can complain that his ideas have been misinterpreted, but we must not let anything appear in the lay press.

A Member: I would like to ask if it is not possible to get out the proceedings of this conference within a short time, as I do not think it will be necessary to wait until they are published in the transactions of the congress.

Dr. Flick: The proceedings will be published within three months. There is no disposition to suppress anything that has been said here, but it is determined that what is to go out shall go out under the signatures of the men who have said it.

The Chairman: I believe it is the desire of the conference that the proceedings this morning should be put into print as rapidly as possible.

A Member: It would not take much special effort, in my judgment, to publish all that has been said here within the next two weeks.

Dr. Flick: I undertake to say that the proceedings of this conference will be published as soon as the men who have taken part in it have revised their remarks.

The Chairman: If there is nothing further to come before the meeting, I now declare the conference adjourned.

Adjourned.

INTERNATIONAL CONFERENCE ON TUBERCULOSIS.

Seventh Annual Session, held at Philadelphia, Sept. 23-26, 1908.

Dr. Lawrence F. Flick, Philadelphia, in the Chair.

(Continued from page 1176.)

Provision for Advanced Cases of Tuberculosis.

Dr. Herman M. Biggs, New York City: The provision of adequate facilities for the care of advanced cases of tuberculosis is the most important single factor in the suppression of the disease. In far advanced cases the patients can be cared for at home, if the sanitary conditions are proper, and if the patient can be induced to take the proper care so that others are not endangered. When this is not the case, patients should be advised to enter a hospital. At present the conditions for this large class of patients are everywhere entirely inadequate.

In order to avoid the impression that these hospitals are for incurable cases only, it is preferable to establish special wards in connection with already existing general hospitals, rather than to build special hospitals for these advanced cases.

It is absolutely necessary that the public health authorities should have the power to remove forcibly and to detain such consumptives as for various reasons are dangerous to others. For the purpose of carrying out these recommendations, it is necessary for the authorities to have at least one small special hospital for such "forced-in" cases. The accommodations of the sanatoria and the establishment of these is the duty of the municipality of the state. Sanatoria should accept many cases beyond the incipient stage. All cases in which there seems to be reasonable prospect of arresting the progress of the disease should be regarded as suitable for admission to such institutions. Modern methods of phthisiotherapy are not applicable to far-advanced cases. Such patients should be made as comfortable as possible, guarded from the possibility of infecting others and treated along old lines.

Prevention of Infection of Healthy Persons.

Prof. von Leube, Würzburg, Germany: Therapeutic measures against tuberculosis have produced complete and durable results in only a small number of cases. There are only two ways of preventing bacilli being transferred to the healthy: First, by rendering innocuous the infectious substances; second, by preventing, so far as possible, the carriers of infection coming in contact with healthy persons. Isolation is the best way of overcoming tuberculosis. In advanced cases the patients should be treated in hospitals reserved exclusively for that purpose. When this can not be done, measures must be taken to accomplish this in general hospitals. Visits to patients must be excluded.

Isolation of Patients.

Dr. Meyer, Berlin, Germany: Tuberculosis is an infectious disease. Advanced consumptives are a danger to others in the spread of tuberculosis, especially owing to unfavorable conditions in their homes. Acording to bacteriologic views, the isolation of patients is an important prophylactic measure in the crusade against tuberculosis. In furnishing institutions for isolation, the leading thought should be that the possibility of curing the patients must go hand in hand with the prevention of infection. Institutions for isolation in tuberculosis should not be different in form from other institutions of this kind. The objection of patients to these institutions will be overcome in proportion to the comfort of the institutions and their nice appearance; as patients will not then feel as if they were in a home for very sick people. Institutions of this kind must not be for so-called hopeless cases alone, but for cases in the first stage also. The entrance into and the leaving of such an institution must always be voluntary. It is not absolutely necessary, though favorable, to have wards for male and female patients. It is not a fact that institutions of this kind are a danger to the inhabitants of their immediate neighborhood, because their inmates will be educated to personal hygiene. Institutions for isolation are of great value, not only as a means of prevention and of cure, but in relation to the hygienic education of many patients.

Tuberculosis Dispensaries.

Dr. R. W. Philip, Edinburgh, Scotland: Many cases of tuberculosis last twenty years without advancing very far and this conception led me in 1887 to found the *consumption dispensary* in Edinburgh. This has proved satisfactory. This dispensary hospital consists of special pavilions within the grounds of the general infectious hospital. Many patients are under the surveillance of the central institution, who are visited at their homes with a view to the treatment of the patient, to the disinfection of the home, the education of relatives and friends, regarding precaution and examination as to the presence of other cases. In Scotland pulmonary tuberculosis is included with the infectious diseases. This places the disease under the public health act and thereby all local authorities must adopt measures as applied in other infectious diseases.

Prophylactic Measures in Tuberculosis.

Dr. Lawrence F. Flick, Philadelphia: Both tobacco and alcohol predispose to tuberculosis and evidence shows that they hasten the progress of the disease. Prophylaxis does not strike at the cure of the stricken one, but is used in the preservation of the healthy one. Cleanliness is the keynote in prevention. Athletics are dangerous, but moderate exercise is of value both as a preventive and curative agent. Bacilli-bearing matter in the animal can be destroyed while it is still part of the tissue of the animal. All dwelling houses should be built with the idea of admitting sunlight and air and should be made to exclude dust and insects. Erection of workshops in public places should be under the control of the government.

Isolation of Patients.

Dr. Robert Koch, Berlin: The history of the isolation of victims with contagious disease is contradictory. In case of leprosy in Norway only one-fourth of the whole number of patients were isolated, yet that fraction of the whole was sufficient to stamp out the disease. Tuberculosis could be eradicated with only partial quarantine. In another country I found that every case of leprosy was quarantined as soon as it was discovered, yet the growth has not been checked. This was due to the victims being in the advanced stage of the disease. I reason that, therefore, tuberculosis can not be brought under control by isolation in sanatoria or other institutions. I favor education of the individual and hold that home isolation is the most effective weapon in preventing the spread of the white plague.

General Prophylactic Measures.

Dr. Nathan Raw, Liverpool, England: The steady decline in the death rate from pulmonary tuberculosis, amounting during the last fifty years to only one-half of the previous rate, indicates better housing and improved hygiene generally. patients, referring the plan of having cottages, each contain- It is notable that the death rate from other forms of tuberculosis, which I consider to be mainly due to the bovine bacillus taken in food, has not shown the same parallel decline. This, I believe, proves the necessity for a more vigorous inspection of cows and the stamping out, if possible, of tuberculosis from cattle. I oppose any measure which would compel medical men under force of penalty to carry out regulations involving delicate relations between physician and patients and believe that the final victory over consumption will not be gained by compulsion but by the earnest and steady cooperation of science and education. The time will come, I think, when it will be possible to vaccinate children with a *mild form of tuberculin which will render them immune from consumption.*

Hygienic Requirements for Sanatoria.

Dr. Gotthold Pannwitz, Berlin: At Vienna last year the question of the cost of establishing sanatoria was brought up. The conference has adopted the scheme devised by the German Imperial Board of Health for the construction of sanatoriums, each to accommodate 100 male adults, but I think that the matter should be developed further. The cost should be considered and the main requirements should be decided on so as to make the cost as small as possible.

Requirements for Prophylaxis and Treatment in Sanatoria.

Dr. Lawrason Brown, of Saranac, N. Y., divided his remarks into two parts; the requirements for treatment and the requirements for prophylaxis. Under the former heading he described the construction of the living quarters of the ing four persons. He considered the interior construction of these, particularly *the bed-room of the patient*, which he thought should be arranged to admit either direct or indirect sunlight into every corner. The sanitary arrangements should be above reproach so as *to exert a good influence* on the members of the patient's family who might visit him.

Sanatoria for Women.

Dr. Louis Guinard's paper on this subject was read by Dr. Landouzy, of Paris.

An investigation should be made into the requirements for sanatoria for women and the cost of care of the patients in these sanatoria should be determined. Dr. Guinard wishes a special investigation made of the system established by Germany and a dissemination of knowledge to all the allied conferences in the different countries, as to what the sanatoria are doing, their cost and their results.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-eighth Annual Session, held at Cambridge Springs, Sept. 14-17, 1908.

(*Continued from page 1179.*)

Need of Better Provision for the Treatment of Mental Disease in Its Early Stage.

Dr. J. Montgomery Mosher, Albany, N. Y., read this paper by *invitation*.

A pavilion was opened at the Albany Hospital in 1902 for the treatment of mental diseases in which patients might be admitted with the same freedom as the sick and injured. The first hospital of this country, the Pennsylvania Hospital in Philadelphia, obtained its charter mainly on representations of the needs of persons "Distemper'd in mind and depriv'd of their rational faculties." From 1902 to 1908 there have been admitted to the pavilion 1,332 patients, of whom 765 have recovered or improved, 446 in the condition have remained stationary and 106 have died. Many patients with mental disease present symptoms of exhaustion and toxemia, which place them in the class of acute general diseases, and, as they are as amenable to treatment as these, they should be dealt with accordingly. Many patients with acute physical disease and many surgical cases are complicated by mental symptoms, the cause of which may not be clear. Incipient and doubtful mental cases have a legitimate claim for treatment on the general hospital. Special wards are needed in general hospitals for the care of acute mental cases, whether idiopathic or complicating medical or surgical disease. These wards should be so situated and so constructed that in the mental cases the patients should neither be disturbed by the activities of the general ward nor in turn prove an annoyance. The value of treatment near home, and of the presence of friends and cooperation of friends of patients can not be overestimated. The training of hospital internes and nurses and familiarity of the public with mental diseases are most important educating influences. General hospitals should be permitted and encouraged to receive mental cases until the limitations of their resources or the probable incurability of the patient has been reasonably established.

DISCUSSION.

Dr. Morris S. Guth, Warren: Dr. Mosher is right about the advantages of a psychopathic ward, but it should be in connection with the large hospitals for the insane. One reason for this is the matter of expense; another the advantage of observation by physicians who have studied the subject. Such cases are not interesting to the general practitioner, and successful treatment is bound up in the personality of the physician. The stigma, if such there be, would attach itself to a ward of this kind just as surely as to an entire hospital Far better would be a united effort on the part of the profession in removing this unwarranted prejudice from any of the insane. This would be the most effective advance in bettering their condition. A psychopathic ward accessible to each medical college and a comprehensive course in mental diseases would do more to educate physicians and improve the early care and treatment of the patients under consideration than anything else. As persons become better acquainted with the insane and with large hospitals for their use the prejudice vanishes.

Dr. E. E. Mayer, Pittsburg: There is need of an observation or psychopathic ward in a general hospital. New York has better methods than Pennsylvania in the custodial care and treatment of the insane, and I favor the establishment of a board such as exists in New York to pass on mental cases rather than having the work done by the board of charities as now obtains in Pennsylvania.

Dr. Joseph K. Weaver, Norristown: If there were psychopathic wards or hospitals the general public would more readily permit their friends to enter *such an institution*; and such patients would thus escape the stigma attaching to their commitment to insane asylums. A third reason is because there is avoided the annoyance and excitement attendant on the *making* out of commitment papers. Such a hospital should not be placed in a city where the services of a physician specially trained in nervous and mental diseases are not available.

Dr. Elliott, Pittsburg: A psychopathic ward is necessary not only for the observation of mental cases before their possible commitment to an insane asylum, but for patients who may pass into a state of mental aberration following a major operation or other condition.

Dr. Winters D. Hamaker, Meadville: The general practitioner should be ready to treat *many of these* patients successfully in their homes. Though difficult, this *can sometimes* be accomplished, particularly in the conditions due to overwork, great mental strain, the intense heat or as the result of injury to the brain by a blow. In such cases the trouble is often caused by a vasomotor disturbance. I have had success with the use of digitalin in *large doses*, securing the constrictive effect of the drug on the small vessels of the brain. I have also used ergot with great benefit.

Dr. Theodore Diller, Pittsburg: Nothing will so *emphasize* to the laity the fact that sickness and insanity should be regarded as one and the same thing as the establishment of a psychopathic ward in a general hospital. Such a ward is also needed for cases of pneumonia, typhoid or nervous prostration in which mental symptoms may develop. This ward should be the smallest part of the hospital so that it will not become conspicuous and be known as an insane ward.

Mechanical Treatment of Visceral Ptosis and a *New Method* of Applying a Bandage.

Dr. J. Torrence Rugh, Philadelphia, described a bandage which he has evolved since his first employment of the Rose *bandage:*

Two strips of Z-O plaster constitute the bandage, the first being from 7 to 9 inches wide and from 24 to 32 inches long, while *the second is from* 3 *to* 4 *inches* wide and 36 to 40 *inches* long. The patient is placed supine on a flat and firm surface and the hips are raised 2 or 3 inches to favor *reposition of the* viscera and to facilitate application of the bandage. The first strip is then laid across the lower abdomen, the lower border being in close relation to the pubis. A strip about 1½ inches wide is cut longitudinally from each end running just past Poupart's ligament. Another cut is made higher up, just opposite to and penetrating as far as the iliac crests and this is then turned obliquely downward so as to pass directly over the anterior superior iliac spine and is terminated just below this landmark. The *first strips* are *then* stretched firmly over each side and carried about the pelvis in a markedly upward direction and are carefully smoothed in place. The second strips are similarly stretched and carried high up on the pelvis posteriorly. The remaining top pieces are then drawn loosely about the waist and will be found naturally to run downward over the first two. After all have been carefully smoothed into position, the second strip is passed under the body, and, its ends being seized, it is firmly stretched, laid against the back and the ends drawn forward, resting just above the iliac crests and curving downward over each groin, meeting just over the pubis in the same manner as the Rose bandage.

DISCUSSION.

Dr S. Solis-Cohen: I agree with Dr. Rugh that the nonremovable bandage should not be used when a *movable one* would answer, nor do I advocate the use of any bandage when operation is clearly necessary. Furthermore, I do not regard the bandage alone sufficient, but believe that in most cases there must be exercises appropriate to the condition of the patient to restore the musculature tone of the belly wall which, with the visceral fat, is the important factor in retaining the abdominal viscera in position. I have observed much benefit from the use of the bandage as applied by Dr. Rugh in displaced *kidney* causing Deitl's crises and other well-known symptoms. *Irritation* of the skin under the bandage was mentioned as the great disadvantage in connection with its use. With the discovery of a preventive of this itching the bandage would present about the best crutch that could possibly be supplied a patient. It is a temporary matter, however and the real treatment must be dietetic and strengthening to restore the fat and tone of the muscles.

Dr. E. V. Swing, Coatsville: I have used the Z-O bandage with good results and for the irritation produced I have suggested that manufacturers make a bandage with perforations.

Dr. Myer Solis-Cohen, Philadelphia: Goldthwait of Boston and others believe that faulty positions in standing and walking by which undue weight is put on the ilio-sacral ligaments are factors in the etiology of enteroptosis.

Dr. Theodore Diller, Pittsburg: I have seen cases in which this condition had produced symptoms apparently of nervous origin, but in which relief was afforded on application of a bandage about the hips as described.

Dr. J. T. Rugh: Any mechanical support must be looked on merely as an aid. Any form of treatment which will improve the muscle tone of the abdominal parietes should be employed. Faulty positions in standing and walking have a strong influence in the production of visceral ptosis. The tone of the abdominal parietes is one of the most effective factors in maintaining the abdominal organs in their proper relationships. Contrary to the common impression, a floating kidney can be strapped back, and as a sequence the suspensory ligaments will contract.

(To be continued.)

COLORADO STATE MEDICAL SOCIETY.

Thirty-eighth Annual Meeting, held at Denver, Sept. 8-10, 1908

(Continued from page 1178.)

The Integumental Tuberculin Reactions, with Report of 155 Moro Inunction Reactions.

Dr. Gerald B. Webb, Colorado Springs: Announcements of these reactions have been for the most part in foreign medical publications, and as there seems to be a good deal of misunderstanding among the profession regarding them, I give a short account of each, and my own experiences and conclusions as to their value.

In the order of their publication I have collected the following accounts:

The Cutaneous:
1. Pirquet's.
2 Lignieres'.
3. Moro's.

The Conjunctival:
4. Mantoux's.
1. Wolff-Eisner's.
2. Calmette's.

1. v. Pirquet's cutaneous test; choice of preparation: Koch's old tuberculin is used. Various dilutions of it have been tried, but a 25 per cent. solution appears to give best results. The reactions are neither too slight nor excessive. On account of simpler application in April, 1908, I began a series of tests with the Moro cutaneous reaction, and used it in 155 cases, with negative results in 86, positive in 69; in 85 apparently normal individuals, 66 gave negative and 19 positive results; in 15 well-marked cases 7 were negative, 8 positive; in 39 suspected tuberculous cases, 8 showed negative results, 31 positive; and in 12 clinically early cases one gave negative and 11 positive results. The conjunctival reaction was made in five of the suspected cases simultaneously with the inunction. In three positive Moro reactions the conjunctival test also was positive; but in two positive to the Moro test, the conjunctival reaction was negative. In one of these cases also the reverse was true; that is to say, the conjunctival reaction was positive and the Moro negative.

It has been suggested that the skin reactions are too delicate to be of service in diagnosis; von Pirquet himself noted that nearly all adults reacted and so he restricted their value to early infancy. My results with the Moro inunction tests do not seem to be in accord with this, for out of the 85 individuals, apparently normal, 66 failed to react. Of the 19 who did react, 14 of these were found by other methods to be distinctly tuberculous. Of the 66 who failed to react, two were later found to be tuberculous.

In summarizing the impressions regarding the early diagnosis of tuberculosis by the cutaneous reaction I feel that all clinical methods should be exhausted before any application of tuberculin is made. The hypodermic use of tuberculin is the most satisfactory diagnostic method, and is a safe procedure, but it is more troublesome than the skin test. The simplicity of the inunction and the satisfactory results I have obtained favor continued use of it. The opsonic index is of value in aiding in the diagnosis of tuberculosis.

DISCUSSION.

Dr. S. Simon, Denver: The disastrous results usually following the ophthalmic reaction have convinced me that I would not care to use it. I saw one case in which panophthalmitis developed as a result of its use, and from a number of other cases reported it seems to be so fraught with danger as to preclude its indiscriminate use by the general practitioner. Hamburger maintains that it is valueless in adults. In a series of many hundred cases he obtained positive reaction in practically all above the age of 3½ years, and he considers it of value only in cases between the ages of 6 months and 3½ years.

Dr. S. G. Bonney, Denver: I have found the ocular tuberculin test of considerable value. Physicians in Colorado are frequently confronted by patients who have made great sacrifices in order to avail themselves of favorable climatic influences, when an examination of the chest disclosed no physical evidence of tuberculous involvement. With such patients, Colorado physicians should exhaust every available means of arriving at an intelligent conclusion regarding the condition. I have felt called on to resort to the ocular tuberculin test about 125 times with no unfavorable results. As a rule, a profound reaction has taken place when there was incipient infection. I used the test recently in a case in which the patient had pronounced conjunctivitis and with no unfavorable results.

Dr. C. C. Goddard, Leavenworth, Kan., gave the results obtained by Professor Barber of the Kansas University, who had 60 students submit to the test: On the first instillation 5 reacted positively; ten days later 30 responded, and later out of the 60 there were only 4 who did not respond.

Dr. O. M. Gilbert, Boulder: The recent work of Rosenau and Anderson of Washington, D. C., explains the condition to which Dr. Goddard referred, which is due to anaphylaxis, i. e., when the dose is repeated in the same eye within a short time a reaction is obtained, when none occurred at first. They warn emphatically against this deception.

Dr. George H. Cattermole, Boulder: Many patients who refused the old tuberculin test are willing to submit to the ocular test, and have thus been convinced of their trouble.

Dr. G. B. Webb: v. Pirquet later changed his view and does not now regard his reaction as being only applicable to children. I believe in the usefulness of the skin reaction if properly interpreted, and if not properly interpreted by eastern physicians who are using them a condition of phthisiophobia will be developed and the increase of the inhabitants of Colorado will be rapid. I believe the advantage lies in the Moro inunction, because of its simplicity of application and the necessity of seeing the patient only once in forty-eight hours.

The Medical Treatment of Advanced Pulmonary Disease.

Dr. J. F. McConnell, Colorado Springs: I plead for better appreciation of the usefulness of drugs, and for a more intelligent exhibition of them. There should be persistent, systematic and every-day use of the perforated zinc inhaler, obviating the administration of cough sedatives at bedtime. Of the internal remedies I recommend creosote to promote nutrition except in patients who have scanty expectoration; it is useless in advanced septic conditions. Guaiacol carbonate is the best of the preparations; it should be given in small doses. Ichthyol is a valuable expectorant, and should be administered in capsules after meals. Rhubarb is useful to promote nutrition. Strychnia should not be used other than as an emergency remedy without careful uranalysis, as it is liable to produce contracted or small white kidney. Opium is greatly abused in advanced pulmonary cases. The routine use of heroin, codein or morphin to control night cough and promote sleep is a great error.

DISCUSSION.

Dr. S. G. Bonney, Denver: Dr. McConnell is to be commended for his advocacy of rational drug therapy. A few years ago the tendency was to exaggerate the importance of climate, and to minimize the value of hygienic and dietetic measures, while at present there is such a reversal of sentiment that many leading phthisio-therapeutists throughout the country are inclined to deny the value of climate, and to place entire dependence on the dietetic and hygienic methods, and are also inclined to belittle the utility of drugs. Physicians in Colorado are embarrassed frequently by patients coming to them from the east with letters from their home physicians expressly forbidding them to take any medicine. There is a broad and medium ground that we should take on this matter. We should not deny *in toto* the employment of drugs in properly selected cases. Medicine should be administered only to meet certain indications, and with great discrimination as to the nature and the exigency of the occasion. I have noted satisfactory results from administration of the homologous vaccine in cases of mixed infection. Hygienic methods are always practicable, and should be utilized. I have been greatly disappointed in the zinc inhaler, which is not applicable to every case, and usually gives the patient a feeling of suffocation. I do not think creosote is effective in advanced pulmonary disease, but only possesses a claim for tentative employment in a very few selected cases. I stopped the use of ichthyol many years ago on account of its unfavorable action, and I disagree with Dr. McConnell regarding the use of rhubarb. In my opinion the small white kidney is not produced by administration of strychnin. We should call a halt to this fanatic crusade against drugs, but we must remember that there is demanded intelligent administration of drugs in accordance with special indications.

Dr. C. B. Van Zandt, Denver: We are rapidly reaching a time when drugs in this disease will be practically discarded except for relief of urgent symptoms. I am a member of the staff of the National Jewish Hospital for Consumptives in Denver, and no two men on the staff treat the patients alike—some use drugs freely, others give little or no medicine, depending almost entirely on dietetic measures, hydrotherapy, outdoor life, etc. The superintendent states that he sees no especial difference in the outcome of the several groups of cases in the hands of different men.

Latent Pelvic Infections.

Dr. Charles B. Dyde, Greeley: When pus forms in the cellular tissue of the pelvis and is not extruded naturally or evacuated artificially, it may remain encapsulated, and if during the period of its latent activity some accidental physiologic disturbance supervene the result may be disastrous. In a case representing the theory of latent organisms amid parametric thickening, the patient two years after labor gave history of typical postpartum infection. A second case represented the type in which following a pelvic cellulitis pus formed, leaving a small encapsulated abscess. The patient had been married one and one-half years and aborted one year ago at the third month, with gradual return to apparent health. Five months ago she became pregnant, remaining well until one month ago. At this time abdomen enlarged rapidly. She was brought to the hospital; in two days she had a miscarriage. On the eighth day an incision was made into the tissues about Poupart's ligament, and 96 ounces of fetid greenish pus escaped, and the flow continued. The main cavity was found entirely outside of the abdomen, having the abdominal muscles posteriorly, the subcutaneous tissues, fat and skin anteriorly. A sinus was found leading down to the pelvis, through which pelvic drainage was made. Death occurred six and one-half weeks from date of admission to hospital. Autopsy showed the pus cavity to be entirely extraperitoneal. The history of the case warrants the assumption that primary infection occurred one year earlier, at the time of the abortion.

Surgical Treatment of Chronic Constipation.

Dr. Horace Heath, Denver: From the investigations by Martin and Pennington we have positive proof of the existence of rectal valves, which I believe may become diseased as well as any other organ of the body, and in proper cases should be treated by operation. I believe in the operation devised by Pennington, i. e., a clip to be placed over the valve, causing pressure necrosis. I have operated on 68 patients, from 17 to 60 years of age: 43 were cured, 14 greatly improved, 7 slightly improved, and 4 unimproved.

Oblique and Complicated Fractures of the Leg.

Dr. W. W. Grant, Denver: Deformity in cases of oblique fracture of the tibia with the fibula can best be prevented by applying a posterior gutter or trough splint adapted to the inequalities of the leg, the calf and the angular irregularities about and just above the ankle, with a cup-shaped depression for the heel. These splints are made of porous, light metal wire and a composite material which can be easily cut with a knife. Lateral splints should be applied with the foot at a right angle to the leg to prevent lateral deviation, and curvature. After eight or ten days the side splint may be removed, and a silicate of soda dressing applied to the leg, over the posterior splint, which is retained. By the use of this splint and dressing both lateral and antero-posterior deformity will be prevented. It is well to make extension while applying the permanent dressing.

Immediate Operative Treatment of Certain Fractures.

Dr. Leonard Freeman, Denver: In considering the operative treatment of recent fractures a number of propositions require attention: 1. No recent fractures should be operated on that can be treated successfully by other means. 2. No recent fracture should be operated on except under the most favorable surroundings, and by an experienced surgeon, who is a master of aseptic technic. 3. The resisting powers of the patient should be taken into careful consideration. 4. The patient's position and duties in life deserve attention. 5. The success of the operative intervention depends much on the accessibility of the fracture—the danger varying directly with the amount of manipulation required. 6. It should be recognized that faulty alignment and overlapping of fragments, or even the presence of visible deformity, do not always mean disturbance of function. 7. In estimating the value of an operation, the after-treatment deserves consideration—will it be rendered less trying to the patient or give a better result in a shorter space of time? 8. The indications for operation vary greatly with the particular bone broken, the character of the break, and its situation in the bone. The clavicle seldom requires operation, while evulsions of the tuberosities of the tibia, humerus and os calcis and fractures of the surgical neck of the humerus with dislocation or rotation of its head, should nearly always be treated by the open method. It is seldom desirable to operate on transverse breaks in the shafts of long bones, and the greatest necessity for operation is found in fractures of the epiphyses. 9. Admitting the desirability of operating in certain selected cases, it must not be forgotten that there are two important drawbacks, delayed union and sepsis. Every fracture should be operated on when satisfactory replacement of the fragments, as shown by the x-ray, can not otherwise be accomplished.

Other Papers Read.

The following papers were also read: "General Neuritis of Both Cranial and Spinal Nerves Following Typhoid," Dr. E. W. Lazell, Denver; "Importance of Early Diagnosis in Certain Troubles of the Upper Abdomen," Dr. C. B. Lyman, Denver; "Earache and Its Consequences," Dr. J. A. Patterson, Colorado Springs; "Treatment of Typhoid," Dr. H. S. Henderson, Grand Junction; "Should We All be Specialists?" Dr. W. A. Kickland, Fort Collins; "Appendicitis," Dr. C. H. Graves, Canon City; "Differential Diagnosis Between Appendicitis and Pelvic Disease," Dr. W. F. Church, Greeley; "Physicians' Co-operative Hospitals," Dr. E. G. Edwards, La Junta; 'Somnoform," Dr. C. G. Parsons, Denver; "Technic of Bier's Hyperemia," Dr. H. M. Cohen, Denver; "Causes and Consequences of Malignment of Cervical Vertebræ," Dr. M. E. Bates, Denver; "Rheumatism in Childhood," Dr. W. F. Spaulding, Kersey; "Blood Conditions of Childhood," Dr. T. R. Love, Denver; "Typhoid Fever in Infants." Dr. W. T. Little. Canon City: "Avenues of Tuberculous Infection in Children." Dr. C. G. Hickey. Denver: "Tuberculous Involvement of the Bones in Childhood." Dr. H. W. Wilcox, Denver: "Needed Legislation to Regulate Milk Supply." Dr. L. O. Rodes. Boulder: "Plea for the Distribution of Diphtheria Antitoxin in the State of Colorado." Dr. F. E. Waxham. Denver: "Pemphigus of the Conjunctiva." Dr. W. C. Bane, Denver: "Laryngo-Fissure for Intrinsic Laryngeal Carcinoma." Dr. F. L. Dennis. Colorado Springs: "Thrombosis of the Cavernous Sinus. Following Mastoiditis." Dr. D. S. Neuman, Denver: "Thrombosis of the Intracranial Venous Sinuses of Otitic Origin." Dr. T. J. Gallaher. Denver: "Ocular and Orbital Symptoms of Thrombosis of the Cavernous Sinus." Dr. E. Jackson. Denver: "Differential Diagnosis of Lesions of the Mouth Due to Sarcoma. Carcinoma. Tuberculosis and Syphilis." Dr. T. E. Carmody. Denver.

Steamboat Springs was selected as the meeting place for 1909.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NEW MEXICO Board of Health and Medical Examiners. Santa Fe. October 12-13. Secretary. Dr. J. A. Massie. Santa Fe.

ARKANSAS Regular Board of Medical Examiners. Little Rock. October 13. Secretary. Dr. F. T. Murphy. Brinkley.

ARKANSAS Homeopathic Board of Medical Examiners. Little Rock. October 13. Secretary. Dr. P. C. Williams. Texarkana.

GEORGIA Regular Board of Medical Examiners. Capitol Building. Atlanta. October 13. Secretary. Dr. E. R. Anthony. Griffin.

MISSISSIPPI State Board of Health. The Capitol. Jackson. October 13. Secretary. Dr. S. H. McLean. Jackson.

KANSAS State Board of Medical Registration and Examination Topeka. October 13-15. Secretary. Dr. R. A. Light. Chanute.

MICHIGAN State Board of Registration in Medicine. Lansing. October 13-15. Secretary. Dr. B. D. Harison, 504 Washington Arcade, Detroit.

WYOMING Board of Medical Examiners. October 14-16. Secretary. Dr. S. B. Miller, Laramie.

NEW JERSEY State Board of Medical Examiners. State House Trenton. October 20-21. Secretary. Dr. J. W. Bennett. Long Branch.

ILLINOIS State Board of Health. Great Northern Hotel, Chicago. October 21-23. Secretary. Dr. J. A. Egan. Springfield.

INDIANA Board of Medical Registration and Examination. Room 120, State House, Indianapolis. October 27. Secretary. Dr. W. T. Gott. Room 120, State House, Indianapolis.

Additional Data for the Educational Number.

The receipt of additional information and the detection of some errors which appeared in THE JOURNAL. Aug. 15. 1908. the Educational Number. make necessary the following statements:

(a) In the list of colleges on page 604 should be included Dartmouth Medical College. which in and after 1910 will require for admission. in addition to a four-year high school education, two years of college work. including courses in physics, chemistry. biology and modern languages. and also the Denver and Gross College of Medicine. which in and after 1910 will require one year of such college work for admission.

(b) The acting dean of Harvard University Medical School. Boston, is Dr. Charles M. Green. vice William L. Richardson.

(c) We are informed that the last class of the Humboldt Medical College (Extinct Medical Colleges. page 599. No. 184), graduated in 1869. and that the correct name of its predecessor (No. 203. same page) was the St. Louis College of Medical and Natural Sciences.

(d) Regarding the United States Medical College. Eclectic. New York City (page 600. No. 271). it should be stated that by special act of the New York Legislature the diplomas of this school up to and including 1883 were made legal.

(e) The (ee) in the remarks regarding the Galveston Medical College (page 601. No. 348). should have been on line 349. since the footnote thus indicated refers to the Gate City Medical College.

(f) Information states that the Oklahoma Medical College (page 601. No. 314) was not suspended. but completed its first session. The next session will begin Oct. 1, 1908, and end June 10. 1909. The dean is Dr. W. T. Salmon. Oklahoma City.

(g) The dean of the Medical College of South Carolina is Dr. Robert Wilson, vice Dr. Allard Memminger.

(h) Corrections in Table 4 are as follows: Page 594, line 44: Kansas Medical College graduated no class in 1901. Line 48: The correct name is the Southwestern Homeopathic Medical College and Hospital.

Page 595. line 56: The first class graduated from Johns Hopkins Medical School in 1897. Line 59: No class graduated from the Woman's Medical College of Baltimore in 1898. Line 92: Fordham University. School of Medicine, New York City. was organized in 1905. the dean being Dr. James J. Walsh. In line 196 the reference II-235 should be changed to II-236.

Page 596. line 139: The first class graduated from Baylor University in 1903.

Page 598. line 71. should read "Medical Department of Illinois College. Jacksonville." Line 77: The National University of Illinois became extinct in 1890. Line 78: The reference II-92 should read II-95.

Page 599. line 154½. should be inserted for the Detroit Homeopathic Medical College. organized 1871, and extinct in 1876. Line 176: The first class graduated from the College of Physicians and Surgeons of St. Joseph in 1879.

Page 600. line 229: The reference II-262 should read II-263. Line 239: The reference II-231 should read II-232. Line 245: The reference II-236 should read II-237. Line 270 should read "Syracuse Medical College. Eclectic, Rochester," etc.

Page 601, line 293: Hygeia Medical College. Cincinnati, seems to have graduated no classes in 1896 or 1897; the last class graduated in 1899 when the college became extinct. Line 348: The reference (ee) in this line should have appeared in line 349. Line 353: The last class graduated from the University of Dallas. Medical Department, in 1902.

Higher Standards at the University of Virginia.

Three years ago the University of Virginia, like most universities of the South. required only a three-year high school course for admission. The medical course covered four years, including a year in physics. chemistry and biology. At the beginning of the session of 1907-8, however, the medical course was enlarged and the year in physics, chemistry and biology was required for admission in addition to the three-year high school education.

Thus, instead of waiting until 1910. as first announced. the University of Virginia has had the courage to appear among the leaders in adding to its requirements that important preliminary year in science. After June 1, 1910, the standard will be again raised by requiring a four-year high school education and a year of college work in physics, chemistry, biology and one modern language. preferably German.

Meeting of the Confederation of Reciprocating Boards.

The annual meeting of the American Confederation of Reciprocating. Examining and Licensing Medical Boards was held in Cleveland. Ohio. April 28. 1908. ten states being represented. The report of the meeting comes to us rather late, owing to the sudden and prolonged illness of the secretary. Dr. B. D. Harison. Detroit.

The principal items of business transacted were: the report of a special committee on college inspection and classification: the adoption of a standard of minimum equipment for medical colleges: the adoption of a standard form for reciprocal registration: the adoption of a revised standard of preliminary education: the appointment of a committee to revise the constitution of the confederation and the election of officers.

The question being raised as to what construction should be placed on the requirement demanding attendance on 80 per cent. of the course in the medical college, it was decided to interpret the requirement to mean that "the student shall be required to be in actual attendance on 800 hours of the scheduled hours of instruction in the curriculum of each year," and that "not more than 100 hours of absence from the course shall be allowable at the beginning or end of any college year."

Dr. W. A. Spurgeon of Indiana was re-elected president and Dr. B. D. Harison of Michigan was re-elected secretary.

Poorly Trained Doctors a Public Menace.

The president of the Royal College of Surgeons of England has recently been making a public appeal for money for the purposes of medical education. In commenting on this appeal, the *Practitioner*, London, September, 1908, shows that the matter is not an issue in the narrow interests of the medical profession, but seriously concerns the entire community, and says that "every doctor imperfectly instructed in his science and art may be, at any time, a public danger." Not only are ignorant, ill-trained physicians a public menace, but it is equally true that in the interest of public health and for the prevention of disease, no movement at the present day is of greater importance than that which will secure for a country thoroughly qualified medical men.

Hospitals and University Control.

In commenting on the proposed new hospital for the city of Melbourne, Australia, the *Australasian Medical Gazette*, March 20, 1908, urges that the University of Melbourne be given the control of the hospital so far as the appointments to the staff are concerned. A similar arrangement between the University of Sydney and the Sydney Hospital and the Royal Prince Albert Hospital has proved to be satisfactory. The following statement needs no comment: "The general public should understand that it is in the interests of all that the practitioner of the future should be thoroughly well trained, and that the patients in a university hospital get the best individual attention and treatment."

It is doubtless a fact that when a university has a strong medical department, such an arrangement between a university and a hospital would be mutually beneficial. The medical department would benefit by the control of the clinical teaching material, while the charity patients of the hospital would doubtless receive far better individual attention. Of course, the benefit to the hospital would not be the same if the university and its medical department were of inferior grade.

Vermont July Report.

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Burlington, July 14-16, 1908. The number of subjects examined in was 13; total number of questions asked, 95; percentage required to pass, 75. The total number of candidates examined was 36, of whom 32 passed and 4 failed. Three reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Yale University	(1908)	85.3, 87.1
Medical School of Maine	(1908)	88.9
Tufts Coll. Med. School	(1907)	77.2
Bellevue Hosp. Med. Coll.	(1898)	81.9
College of P. and S., New York	(1895)	75
University of Vermont (1898) 87.2; (1906) 84.7: (1908) 75.9, 79.2, 79.5, 80, 81.1, 81.5, 81.9, 82.1, 83.1, 83.4, 83.5, 84.2, 85.8, 85.8, 86, 86, 86.9, 87.3, 88.1, 88.6, 88.6.		
McGill University, Quebec	(1893)	87.3
Queen's University, Ontario	(1906)	75
University of Messina, Italy	(1905)	80.3

FAILED.

College.	Year Grad.	Per Cent.
[illegible] University	(1906)	67.4
[illegible] Coll., Philadelphia	(1881)*	
[illegible]mont	(1908)	72.2
[illegible]	(1905)	64.1

LICENSED THROUGH RECIPROCITY.

College.	Year grad.	Reciprocity with.
Johns Hopkins Med. School	(1902)	Maryland
Albany Med. Coll.	(1908)	New York
University of Turin, Italy	(1905)	Maryland

* Percentage not given.

Marriages

John F. McCooey, M.D., to Miss Anna Marrah, both of Woonsocket, R. I., September 22.

J. B. Guillory, M.D., Washington, La., to Miss R. Adele Fiegel of Garland, La., August 31.

Kenneth B. Turner, M.D., to Miss Helen Alexander Stewart, both of Seattle, September 22.

Jesse Godfrey M. Bullowa, M.D., to Miss Sadie F. Nones, both of New York City, September 21.

Albert Franklin Tyler, M.D., Lincoln, Neb., to Miss Ellen Charlotte Roe, of Omaha, September 23.

John P. Laughlin, M.D., East Liberty, Pittsburg, to Miss Edna Pershing of Pittsburg, September 23.

Eilio Janson, M.D., Seattle, to Miss Bodel Fredenkke Hammerich of Dresden, Germany, recently.

H. Clifford Loos, M.D., San Diego, Cal., to Miss Anita Johnson of Riverside, Cal., September 15.

Frederic Pomeroy Lord, M.D., Iowa City, to Miss Jeannette Mather of Springdale, Iowa, September 15.

Francis Brooke Longan, M.D., to Miss Ellen Clayton Walton, both of Newport News, Va., September 9.

Mott Hunton Arnold, M.D., Paris, Ill., to Miss Grace Meriam Chapman of Siegel, Ill., September 16.

Charles Wilson, M.D., to Miss Catherine Currie, both of Duluth, Minn., at Laurium, Mich., September 15.

William A. Nield, M.D., New Bedford, Mass., to Miss Alice De Wolf of Newton, Mass., September 21.

James C. Watson, M.D., Georgiana, Ala., to Miss Edna Binion of Dothan, Ala., at Georgiana, September 24.

Walter Barry Jennings, M.D., New York City, to Miss Mabel Judson of Dobbs Ferry, N. Y., September 30.

Perry Bosworth, M.D., Huttonsville, W. Va., to Miss Lucy E. Smith at Academy, W. Va., September 17.

Courtney W. Shropshire, M.D., Birmingham, Ala., to Miss Leta Mary Duffy of Jeffersonville, Ind., September 21.

William J. Shelton, M.D., St. Joseph, Mo., to Miss Maggie L. Griffith of De Kalb, Mo., at Dearborn, Mo., September 23.

James M. McGeorge, M.D., Salem, Ohio, to Miss Florence Edna Knox of Franklinville, N. Y., at Cuyahoga Falls, Ohio, September 22.

Deaths

James B. McGaughey, M.D. University of Michigan, 1867; a veteran of the Civil War; for more than 40 years a practitioner of Winona, Minn.; president of the Minnesota State Medical Association in 1884 and 1885; a member of the American Medical Association for 36 years; a member of the Minnesota State Board of Health; secretary of the local board of United States pension examining surgeons; local surgeon to the Burlington and Northwestern systems; secretary of the Winona County Medical Society since 1872; a member of the American Academy of Railway Surgeons, and formerly president of the Southern Minnesota Medical Society; one of the most prominent and successful practitioners and consultants of southern Minnesota and northwestern Wisconsin; died suddenly from cerebral hemorrhage, at his home, September 27, aged 65.

Oscar Edward Treutler, M.D. St. Louis College of Physicians and Surgeons, 1885; formerly professor of chemistry, toxicology and *materia medica* in his *alma mater*; later occupying the same chair, and in addition serving as director of the chemical laboratories of the Marion-Sims College of Medicine; professor of materia medica, toxicology and therapeutics in the St. Louis Woman's Medical College; professor of prophylactic medicine in the St. Louis College of Midwifery; consulting physician to the St. Louis City Hospital and the East St. Louis (Ill.) Protestant Hospital; one of the editors of the *American Midwife*; died at his home in St. Louis, September 22, from the effects of a street-car accident, twelve years before, aged 51.

Claudius R. Grosser, M.D. University of Pennsylvania, 1898; a member of the Medical Society of the State of Pennsylvania; assistant surgeon of the Ninth Pennsylvania Infantry, U. S. V., during the Spanish-American War; attending physician to Mercy Hospital; examining physician to the State

Tuberculosis Society; died at his home in Wilkes-Barre, September 24, from nervous breakdown, aged 37.

Philip L. Reichard, M.D. Jefferson Medical College, 1864; member of the Medical Society of the State of Pennsylvania; of Allentown; a surgeon during the Civil War; United States pension examining surgeon; died at the Allentown Hospital, September 26, from the effects of a skull fracture, due to a fall down an elevator shaft, aged 73.

Benjamin Whitely, M.D. Jefferson Medical College, 1867; a member of the Medical and Chirurgical Faculty of Maryland, and recently president of the Baltimore County Medical Society; of Catonsville; died at the Union Protestant Hospital, Baltimore, September 26, from the effects of a carbuncle, aged 64.

Jacob Prosser Harrison, M.D. University of Pennsylvania, 1855; a Confederate veteran, and assistant surgeon at the Chimborazo Hospital, Richmond, Va., during the Civil War; died suddenly at his home in Richmond, September 20, aged 74.

Henry Stuart Crockett, M.D. Washington University, Baltimore, 1872; a member of the Medical Association of Georgia; of Americus, Ga.; assistant physician in the State Hospital for the Insane, Staunton, Va., from 1882 to 1884; died in the City Hospital at Americus, September 8, aged 61.

Alonzo H. Good (license, Ind., 1897); a member of the American Medical Association, and vice-president of the Delaware County Medical Society; a veteran of the Civil War, and a practitioner of Indiana for 28 years; died at his home in Muncie, from pneumonia, September 22, aged 65.

John Ransom Hamill, M.D. Rush Medical College, 1887; a member of the Oklahoma State Medical Association; formerly professor of ophthalmology in the Chicago Clinical School; a specialist in diseases of the eye and ear; died at his home in Guthrie, September 25, from typhoid fever, aged 44.

William L. Reed, M.D. Cincinnati College of Medicine and Surgery, 1869; a member of the American Medical Association; a veteran of the Civil War; from 1888 to 1892 a member of the state legislature of Pennsylvania; died suddenly at his home in Indiana, Pa., September 26, aged 65.

Isaac Sewell, M.D. Vanderbilt University, Nashville, 1900; a member of the Medical Association of Georgia and vice-president of the Floyd County Medical Society; physician to the Georgia State School for the Deaf and Dumb; died recently at his home in Cave Springs, Ga., aged 36.

Robert Morris Gibbs, M.D. Rush Medical College, 1879; an ornithologist and entomologist of repute; professor of natural science in Kalamazoo College for several years; died at his home in Kalamazoo, September 18, from paralysis, after an invalidism of twenty-one years, aged 52.

William L. Johnson, M.D. University of Louisville, 1858; a member of the State Medical Association of Texas; surgeon of Terry's Texas Rangers and later medical examiner in the Confederate service during the Civil War; died at his home in Giddings, Texas, May 11, aged 74.

Alexander Thayer Arkley, M.D. University of Michigan, 1871; for several years resident surgeon at Essex Junction, Vt., for the Central Vermont Railway; a member of the consulting staff of the Fanny Allen Hospital; died at his home, May 22, from nephritis, aged 57.

George F. Heidemann, M.D. Rush Medical College, 1863; assistant surgeon of the Fifty-eighth Illinois Volunteer Infantry during the Civil War; coroner of Du Page County, Ill., for eight years; a member of the board of education of Elmhurst for sixteen years; and village treasurer; died at his home, September 29, aged 70.

Walter F. Percival, M.D. College of Physicians and Surgeons, San Francisco, 1901; formerly of Cambria, Cal., but for two years a practitioner of San Francisco; died at St. Joseph's Hospital, September 22, from typhoid fever, aged 30.

M. D. Stanislas Martel, M.D. Ecole de Médecine et de Chirurgie, Montreal, 1865; for several years representative from the county of Chambly in the provincial legislature of Quebec; died at his home in Chambly Basin, September 18, aged 70.

Vernon Gould, M.D. Rush Medical College, 1855; assistant surgeon of the Eighty-seventh Indiana Volunteer Infantry during the Civil War; of Rochester, Ind.; died at the home of his son in that city, March 17, from senile debility.

Joseph Arthur Malloy, M.D. Trinity Medical College, Toronto, 1895; of Hillsdale, Ont.; formerly medical health officer of Medonte Township, Simcoe County; died at Okanagan Center, B. C., June 22.

Edward DeLancey Bradin, M.D. University of Pennsylvania, 1877; for several years a member of the staff of St. Michael's Hospital; died at his home in Newark, N. J., September 24, from nephritis, aged 54.

Martin Matter, M.D. Chicago Medical College, 1872; one of the first men in Chicago to do microscopical biologic work; died suddenly at his home in Chicago, September 29, from heart disease, aged 58.

Edward H. Phillips, M.D. Hahnemann Medical College, Philadelphia, 1868; for several years secretary of the board of education of Cape May, N. J.; died at his home, September 20, aged 79.

R. Holder Speck, M.D. Memphis Hospital Medical College, 1902; a member of the Mississippi State Medical Association; died at his home in Hushpuckena, Miss., September 22, aged 34.

Alida C. Avery, M.D. New England Female Medical College, Boston, 1862; for nine years resident physician at Vassar College; died at her home in San José, Cal., September 22, aged 75.

W. D. Carter, M.D. Atlanta (Ga.) Medical College, 1874; a member of the Medical Association of Georgia; died at his home in Winterville, September 24, from typhoid fever, aged 56.

Edgar Smith, M.D. Eclectic College of Physicians and Surgeons, Indianapolis, 1893; of Carrollton, Ind.; while hunting near Carrollton, died suddenly from heart disease, September 23.

Frank P. Hunt (license, Ind., years of practice, 1897); a member of the Indiana State Medical Association; died at his home in Leipsic, September 23, from heart disease, aged 58.

Abram L. Kellar, M.D. University of Louisville, 1851; for 50 years a practitioner of Decatur, Ill.; died at the home of his daughter in Covina, Cal., Sptember 10, aged 81.

Henry Clarence Young, M.D. New York University, 1875; a veteran of the Civil War; died at his home in Flora Ill., September 19, from cerebral hemorrhage, aged 62.

Amos C. Fleming, M.D. University of Iowa, Iowa City, 1881; of Augusta, Mont.; died in Augustana Hospital, Chicago, September 21, after a surgical operation, aged 53.

Clark Evans, M.D. Jefferson Medical College, 1906; is said to have committed suicide at his home in Lehighton, Pa., by taking carbolic acid, September 26, aged 24.

Alfred Lord Gotwols, M.D. American Eclectic Medical College, Cincinnati, 1888; died from heart disease at his home in New York City, September 26, aged 52.

Joseph B. Scarborough (license, Ill., years of practice, 1878); for 44 years an eclectic practitioner; died at his home in Woodlawn, Ill., September 10, aged 66.

Barnabas W. Day, M.D. Queen's University, Toronto, 1862; a member of the Medical Society of the State of California; died recently at his home in Los Angeles.

Benjamin Taylor Freshman, M.D. California Medical College, San Francisco, 1895; died at his home in Amador City, Cal., September 18, from nephritis.

Frank Merrill Humphrey, M.D. Boston University School of Medicine, 1885; of Hartford, Conn.; died in Naples, Italy, May 13, from diabetes, aged 52.

James Harvey Browne, M.D. Kentucky School of Medicine, Louisville, 1854; died at his home in Bardstown, Ky., September 1, from diabetes, aged 85.

H. Sheldon Edson, M.D. Albany (N. Y.) Medical College, 1877; died at his home in Cortland, N. Y., September 19, from pneumonia, aged 73.

Lindley Schooley, M.D. Starling Medical College, Columbus, 1853; died at his home in Belmont, Ohio, September 17, aged 83.

John W. Kinzer, M.D. Vanderbilt University, Nashville, 1880; of Ripley, Tenn.; died at Memphis, September 17, aged 53.

William N. D'Arcy, M.D. College of Physicians and Surgeons, San Francisco, 1901; died recently at his home in San Francisco.

Lorenzo S. Putney, M.D. University of Michigan, 1874; died at his home in Norfolk, N. Y., May 18, from pneumonia, aged 65.

John Currie Smith, M.D. Toronto University, 1891; died at his home in Barrie, Ont., July 30, from typhoid fever, aged 44.

Medicolegal

Jurors Know About, and Are Competent to Determine Amounts to be Allowed for, Physicians' Bills.

The Supreme Court of New Hampshire had, in the personal injury case of Moran vs. Dover, Somersworth & Rochester Street Railway Co., the question of whether, there being evidence that the plaintiff employed physicians to treat her for her injuries, and of the nature and extent of the treatment, but none as to the value or cost of the services, the jury should have been instructed that on the evidence there could be no recovery for medical attendance and services of the physicians who treated the plaintiff. The court holds that such instruction was properly denied.

The court says that so far as a fact in issue is one on which men in general have "a common fund of experience and knowledge," the jury may use this information in making up their minds. Such knowledge dispenses with the necessity for introducing evidence on the subject. It is also said that the scope of this doctrine is narrow. It is strictly limited to a few matters of elemental experience in human nature, commercial affairs and every-day life. It is apparent that the rule laid down can not be applied with mathematical exactness.

On the particular question involved in this case the courts are divided. A considerable number hold with more or less strictness to the theory that the value of the services of a physician must be shown by evidence. Brown vs. White, 202 Pa., 297; Hobbs vs. Marion, 123 Iowa, 726; Nelson vs. Railway, 113 Mo. App., 659; Houston, etc., R. R. vs. Garsia (Tex. Civ. App.), 90 S. W., 713. But compare with these cases the following: Kelley vs. Mayberry, 154 Pa., 440 (jurors allowed to estimate the value of a wife's services to her husband); Northern, etc., Co. vs. Mullins (Tex. Civ. App), 99 S. W., 433 (jurors allowed to take into consideration the fact that future medical attendance would probably be necessary); Murray vs. Railway, 101 Mo., 236 (jurors allowed to find the value of the services of a nurse, the measure being "their own knowledge and experience").

In other jurisdictions the rule is that jurors "have some knowledge in common with men in general as to the charges ordinarily made by physicians for attendance and services," and that they may avail themselves of that knowledge "for the purpose of determining what sum the plaintiff should have by reason of the expense he has properly and reasonably incurred in endeavoring to effect a cure." McGarrahan vs. Railroad, 171 Mass., 211, 217, 220; Scullane vs. Kellogg, 169 Mass., 544; Feeney vs. Railroad, 116 N. Y., 375; Western Gas Co. vs. Dammer, 97 Fed., 882, 38 C. C. A., 528.

The latter ruling appears the more reasonable, and is in accordance with the practice at nisi prius (on trials) in this state.

It would be difficult to conceive of a matter with which all men are more certainly called on to deal than the employment and payment of a physician. Knowledge on the subject of physicians' bills is as general as on almost any question of every-day life. If more satisfactory proof was available, it might have been produced by the defendant, had it not preferred to allow the case to rest here; and the fact that other evidence was not introduced by the plaintiff was legitimate ground for argument that probably the bills were of small amount. Boucher vs. Larochelle, 74 N. H., 433.

What Constitutes "Prescribing Remedies" and the Practice of Medicine?

Chief Justice Lore, of the Court of General Sessions of Delaware, in charging the jury in the case of State vs. Lawson, said that the defendant was charged with practicing medicine without a license. Under the statutes of Delaware it is a misdemeanor for any person to engage in practicing the profession of medicine within the limits of the state without first having obtained a license therefor. The persons classed by the statute as physicians are designated as follows: "Every person (except apothecaries) whose business it is for fee and reward to prescribe remedies or perform surgical operations for the cure of any bodily disease or ailing shall be deemed a physician or dentist, as the case may be, within the meaning of this act." The defendant did not contend that he had a license to practice medicine, but relied on the defense that he treated his patients personally by hypnotism and massage, without prescribing any remedies, and that such treatment was not in violation of the statute.

The jury's inquiry then was: "Did the defendant for fee or reward 'prescribe remedies' or perform surgical operations for the cure of any bodily disease or ailing?" It was the duty of the court to instruct the jury as to the meaning of the words "prescribe remedies" used in the statute. In medicine to "prescribe remedies" is defined to be "to write or to give medical directions; to indicate remedies." It is not necessary that such prescription should be in writing. It may be given or indicated verbally. Any directions given to the patient for drugs, medicines or other remedies for the cure of bodily diseases, directing how they are to be applied to or used by the patient, is prescribing remedies within the meaning of the statute. It would make no difference whether the direction was given by the defendant himself or by another person, even though such other person be a licensed physician, but engaged by and acting under the control and direction of the defendant in that particular in the conduct of his business. State vs. Paul, 56 Neb., 369; Benham vs. State, 116 Ind., 112; *in re* Bruendl's Will, 102 Wis., 45; O'Neil vs. State, 115 Tenn., 427.

If the testimony, therefore, showed that the defendant gave directions to or indicated to any of his patients that they use powders, plasters, baths of alcohol, whisky or mud, or other remedies of any kind, such direction or indication by him would be prescribing remedies, and make him liable under this statute. If the defendant was guilty of the crime charged in the indictment, it was the jury's duty to convict him. The laws of the state are designed to protect the community, and especially that portion of it which by reason of sickness and disease is peculiarly subject to imposition.

Verdict, guilty.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

September 26.

1 *Exophthalmic Goiter from the Medical Standpoint. A. Stengel, Philadelphia.
2 Early Relationship of the Oösperm to the Endometrium. J. Oliver, London.
3 *Injection of Alcohol for Relief of Trigeminal Neuralgia. J. A. Bodine and F. C. Keller, New York.
4 *Cancer of the Rectum (concluded). J. P. Tuttle, New York.
5 The Leucocyte Count in Abdominal Surgery. J. Douglas, New York.
6 *Gunshot Wounds of the Abdomen. G. G. Holladay, Portsmouth, Va.
7 *Types of Pneumonia Associated with Inflammation of Adenoid Growths. E. J. Bero, New York.

1. **Exophthalmic Goiter.**—Stengel summarizes his article by saying that the practitioner has to deal with three important types of exophthalmic goiter. 1. Cases of moderate enlargement of the thyroid gland, with mild symptoms of hyperthyroidism, occurring in constitutional, circulatory, or nervous conditions. These patients usually recover. 2. Typical cases of hyperthyroidism associated with fixed organic changes in the thyroid gland. These are the cases of classical exophthalmic goiter. The patients may or may not recover under medical or surgical treatment. 3. Cases of long standing goiter or other thyroidal disease, in which symptoms of exophthalmic goiter supervene. Such cases belong to the domain of surgery.

3. **Trigeminal Neuralgia.**—Bodine and Keller give a summary of their experience of the injection of alcohol for trigeminal neuralgia, based on a clinical experience of 15 cases, which they report. They describe the method and conclude that the deep injection of alcohol for relief of trifacial neuralgia is advisable when internal medication has failed, and by all means should precede the consideration of surgical attack.

4. **Cancer of the Rectum.**—*In this article, begun in the issue* of September 5, Tuttle gives a study of 100 consecutive operations for malignant growth of the rectum and sigmoid, between June, 1892, and February, 1908. The following is a summary of his results: The total immediate deaths from 100 operations have been 13, a mortality of 13 per cent. The known recurrences which it is presumed will end or have already ended in death are 24. The number of patients known to be living and free from the disease is 41: this leaves 24 unaccounted for, who may or may not have recurrences. All were free *from the disease up to the time of the last* observation, from three months to five years after the operation. Tuttle next discusses the conditions that have influenced these results and those that justify or condemn the procedures. Of the conditions influencing results with regard to age, he concludes that while the very old are more liable to die from the operation than young people, the chance of permanent recovery is better among them. In regard to sex, the only distinction that can be made is that women bear the combined operation much better than men. The records fail to give satisfactory information concerning the period of existence of the tumor before operation. The attack is insidious, and the grafting of the malignant on the benign disease is imperceptible; so that the general practitioner should be on the alert for such developments. There are no early subjective symptoms peculiar to cancer of the rectum. Constipation was present in over 40 per cent., and the question arises whether the irritation of arrested, hard, fecal matter may not be the exciting cause of malignant invasion. Periodical examination of the rectum is suggested in persistent constipation, just as the urine is examined in nephritic cases. A local examination is also called for by frequent desire to stool, call immediately to stool on rising, change from diarrhea to constipation, or vice versa, loss of weight, flatulence and indigestion associated with stool irregularity. The means of diagnosis employed are the finger, the specimen forceps, the pneumatic proctoscope and the whole hand. The latter, however, should not be used by those who wear over a seven and three-quarter glove. The importance of high examination of the rectum is insisted on in all cases in which there are symptoms indicating cancer.

Tuttle discusses the various types of tumor and says that while it would be well to know the type before operating, it has the disadvantage that while it would not influence the surgeon in the operation a knowledge of extreme malignancy might add to the patient's depression. The percentage of deaths increases the higher the tumor ascends into the bowel; the percentage of recurrences is exactly the reverse. The actual amount of gut involved by the growth is not so important as the amount which is to be excised in order to eradicate the involved glands of the mesentery, and also to obtain a healthy circulation in the proximal end: also the larger and more extensive the tumor, the longer it has existed, and consequently the more likely will there be constitutional invasion. He describes the various organs involved, the prostate eight times, the vagina three, the uterus one, and a number of cases in which the rectum was adherent to the bladder, ileum and prostate. He judges that the cases in which secondary involvement of other pelvic organs has taken place furnish very unpromising results from operations, by any method whatever; that whenever the growth has existed long enough to pass from one organ to another, either by extension or metastasis, it will already have invaded the tissues to such an extent that no operation, no matter how radical, will eradicate it.

Tuttle next describes the preparation of the patient and the character and technic of the operation done. His experience with the combined operation has been small but unfortunate. The cause of death in every case was infection. The trend of his practice has been toward less and less bone cutting. He describes in detail the bone flap or Rehn-Rydigier operation, the perineal operation, and the combined operation, and discusses the various methods of disposing of the intestinal end with their results, and says that it would appear from these figures that although the resections were accompanied by a higher mortality and longer detention in the hospital than those of amputation, the final results of the former are more satisfactory in the majority of cases than those of the latter. The conditions which justify or condemn our procedures must be based on ultimate results, the relief of pain, the extent of continence, the state of the general health, the causes of death, the treatment of recurrences and the length of life after extirpation. Among his conclusions he states that extirpation is the only method that affords any hope of life or prolonged comfort to sufferers from cancer of the sigmoid and rectum; that the only absolute contraindications to removal are immobility and involvement of the liver; and that amputation by the perineal route is feasible in nearly all cases of rectal cancer, and should be the operation of choice whenever the combined or the abdominal operation is not necessary.

6. **Gunshot Wounds of the Abdomen.**—Holladay quotes the teachings of Treves, Makins and Senn, that gunshot wounds of the abdomen received in war do better when let alone. In civil life, he says, the experience of all surgeons is that those patients operated on promptly frequently recover; those treated expectantly usually die. He reports five cases in which recovery followed operation in four, and in a note adds two subsequent cases with operation and recovery.

7. **Adenoid Pneumonia.**—Bero describes under this name certain types of pneumonia coincident with adenoid growths. Its principal features were: Very high temperature; the height of temperature did not correspond to the severity of illness or make the progress unfavorable; the temperature toward the end became intermittent, giving the impression of a number of pseudocrises; quinin did not modify the temperature or early puncture of the ear drum the course of the disease: spleen was not enlarged; malarial plasmodia were not found; course often protracted; proneness to relapses of similar character when adenoid growths were not removed.

Boston Medical and Surgical Journal.

September 24.

8 *Home Treatment of Tuberculosis. A. K. Stone, Boston.
9 Necessity of Providing Employment for Tuberculosis Patients. A. Worcester, Waltham, Mass.
10 *Applied Anatomy of the Tonsil. H. A. Barnes, Boston.
11 Results in Adenoid and Tonsil Operations. J. P. Clark, Boston.

8. **Home Treatment of Tuberculosis.**—Stone points out that people have come to fear tuberculosis in different ways: 1. They are more likely to look out for coughs and colds, etc., thus tending toward early diagnosis. 2. They fear persons with the disease, a blind unreasoning fear in many cases, but a fear which for the time being is working injustice toward those afflicted with tuberculosis. Homes are closed to them, and work is denied them. It is right that the public should demand efficient protection, wrong that they should demand absolute immunity from danger, which is not found anywhere in the world. After all, the brunt of the fight will have to be carried on in the home and the work must be done for the individual and by the general practitioner, whose knowledge of surroundings and resources renders him most fitted to say what shall be done. In every incipient case the patient will be benefited by a sojourn at a sanatorium, but careful supervision must be continued in arrested cases after the return home. Stone discusses the question of occupation, regulation of exercise, dieting, rest, and goes into detail over the question of open-air sleeping. He further considers bathing and water temperature, the disposition of sputa, the cleansing of table implements, etc.

10. **The Tonsil.**—Barnes discusses the anatomy of the crypts of the tonsil with their epithelium and the capsule. He concludes from these considerations that any operation for pathologic condition in the crypts and consequent toxic absorption from them, must have for its object their complete obliteration by the entire removal of the tonsil. With regard to the epithelium lining the tonsillar crypts, he concludes that the cryptic epithelium of the tonsil of childhood,

and of the hypertrophied tonsil of the adult, considered as a mechanical force, can offer no very great obstacle either to the invasion of bacteria or to the absorption of their products; other forces must be responsible for immunity to infection. The quiescent tonsil of the adult, however, possesses an epithelium which in itself would seem to be a fairly effective defense against bacterial invasion. The structure of the capsule, its toughness, and the ease with which it may be separated from the underlying tissues, make the operation of the dissection of the tonsil "in capsule" a very practical one. Blunt dissection is used principally, but a cutting edge or a snare may be necessary to complete separation of the lower half. This operation is neater and more thorough than any other. Barnes prefers the snare for separating the more adherent part of the tonsil at the lower part for fear of hemorrhage.

Medical Record, New York.

September 26.

12 *Tuberculosis of the Ear. W. Sohier-Bryant, New York.
13 Chemical Rays Promoters of Life and Energy: Their Mode of Action and Their Therapeutic Uses. M. A. Cleaves, New York.
14 Cuguillère's Serum in the Treatment of Tuberculosis. E. Caravia, New York.
15 *Malnutrition and Society. I. C. Philbrick, Lincoln, Neb.
16 Vaginoureterostomy After Nephrectomy for Pyonephrosis Due to a "Sigmate Constriction" of the Ureter. A. E. Gallant, New York.

12. **Tuberculosis of the Ear.**—Sohier-Bryant summarizes his article as follows: Tuberculous invasion of the ear is primary or secondary. Primary invasion is direct through the Eustachian tube or through the mastoid lymphatics. Tympanic tuberculosis is an early sign of a more general infection. It also gives an accurate indication of the course of a concomitant pulmonary tuberculosis. Tuberculous mastoiditis has similar characteristics to tuberculous inflammation of other bones. Prognosis for ear tuberculosis is good with proper hygiene and local treatment, and early thorough operative treatment in cases of bone involvement. The evil effects of a tympanic tuberculosis may cause pulmonary tuberculosis to take a lethal course.

15. **Malnutrition.**—Philbrick holds that the children of the poor are for the most part born strong, and that the degeneration noted among them is largely due to lack of food and insufficient nutrition, which occasions also a special liability to respiratory and infectious diseases. She sees the remedy in industrial reform and reform of the family, the enfranchisement of women, bringing into the service of the state that class whose experience and training best fits them for the administrative side of the government, in the establishment of pure milk depots and model restaurants for the working classes, the feeding of school children under certain conditions, and the assumption by the medical profession of its specific responsibility in the way of school inspection.

Lancet-Clinic, Cincinnati.

September 5.

17 Delayed Union in Fractures C. Stoltz, South Bend, Ind.
18 Correlation of Influence. Mental States and Oxygen in the Cause and Cure of Disease I. O. Allen, Centerville, Ind.
19 Fused Kidney (Horse-Shoe Kidney). B. Robinson, Chicago.
20 Tenia Echinococcus. A Retroperitoneal Cyst Involving the Right Broad Ligament. B. M. Ricketts, Cincinnati.

September 19.

21 Dante: Physician. A. G. Drury, Cincinnati.
22 Certain Traits a Nurse Should Possess D. T. Vail, Cincinnati.
23 Lombroso on the Appalling Increase of Crime in Our Country. A. N. Ellis, Maysville, Ky.
24 General Practitioner's Attitude Toward Eyestrain. R. D. Clippinger, Bellefontaine, Ohio.

Virginia Medical Semi-Monthly, Richmond.

August 21.

25 Suture of Blood Vessels and Direct Transfusion of Blood by Vascu[illegible] S. H. Watts, Charlottsville, Va
26 Ultimat[illegible] from Surgical in Comparison with [illegible] in Certain Ovarian Diseases and in All Ovarian Neuroses. J. A. Hodges, Richmond.
27 Plea for a More Liberal Education for the Medical Student. F. E. Harrington, Washington, D. C.
28 Arteriosclerosis: Its Causes and Significance. A. G. Brown, Richmond.
29 Principles of Surgery. S. McGuire, Richmond.

Medical Fortnightly, St. Louis.

September 10.

30 Induction of Premature Labor and Vaginal Cesarean Section—Indications and Contraindications. R. R. Kime, Atlanta.
31 Case of Malignant Tumor of the Thyroid. H. C. Kloepper, St. Louis.

American Journal of Physiology, Boston.

September.

32 *Nitrous Acid, Nitrites and Aqua Regia in Determination of the Mineral Constituents of Urine. J. H. Kastle, Washington, D. C.
33 Hydrolysis of Vetch Legumin. T. B. Osborne and F. W. Heyl, New Haven, Conn.
34 Hydrolysis of Chicken Meat. T. B. Osborne and F. W. Heyl, New Haven, Conn.
35 *Control of Spasms by Asphyxiation. A. H. Ryan and C. C. Guthrie, St. Louis.
36 *Diminished Muscular Activity and Protein Metabolism. P. A. Shaffer, New York.
37 Nature of Heat Paralysis in Nervous Tissues. F. C. Becht, Chicago.
38 *Application of McDougall's Theory of Contraction to Smooth Muscles. E. B. Meigs, Boston.

32. **Mineral Constituents of Urine.**—The determination of the alkali metals in the urine is somewhat difficult in consequence of the fact that the urea requires a long time for complete destruction, and is likely to cause ammonia to be reckoned along with potassium of the ash. Kastle has experimented with sodium nitrite, nitrogen trioxid, and nitrohydrochloric acid, as agents for the destruction of urea during the process of incineration. The results were favorable, the determination of potassium and sodium being made with comparative ease and with a satisfactory degree of accuracy. In later experiments he has found that cream of lime will decompose urea with equal efficiency, and he believes that this method will prove of special service.

35. **Control of Spasms.**—Ryan and Guthrie find that spasms can be controlled, at least temporarily, in amphibians and mammals by partial asphyxiation. Since asphyxiation produces results similar to those which have been obtained after the injection of salt solutions it would seem that this factor should be constantly borne in mind in interpreting the results obtained by the injection of such solutions.

36. **Muscular Activity and Protein Metabolism.**—Shaffer experimented on two colleagues under rest in bed, as well as when doing ordinary and, for a period, extra work. His results supplement the observations made on other individuals undergoing ordinary exertions, and show that neither an increase nor a decrease of the amount of muscular action, within wide limits, is capable of altering protein metabolism. Exercise is necessary to health, but the amount of muscular energy expended in a given day (provided the amount is not excessive for the particular subject) does not appear to affect any of the nitrogenous substances of the urine excreted on that or the following days.

38. **Theory of Contraction of Smooth Muscle.**—Practically all the experimental work on the contraction of muscles has been done on the striated muscles. McDougall has propounded the hypothesis that the absorption of the surrounding fluid by the sarcostyles causes a distention that necessarily results in the shortening of the fibers. Meigs has attempted to determine whether this theory will also explain the contraction of smooth muscles. The author's investigations show the absence of any clearly defined divisions of the smooth muscle fiber, and indicate that the state of contraction is accompanied by a passage of fluid from the cells into intercellular spaces; while a similar study of striated muscle indicates that contraction is accompanied by a passage of fluid from the sarcoplasmic spaces into the sarcostyles. In harmony with this it is shown that, as a rule, swelling reagents cause a slow contraction of striated muscle and that the opposite class of reagents cause a slow lengthening. In the case of smooth muscle the reverse is observed; swelling reagents produce a slow lengthening, and the opposite class of reagents a slow shortening. It seems evident in both cases that the contraction is due to a mechanical change in the relations of the muscle cells and surrounding medium in relation to the amount of liquid, but that the relations in one case are the reverse of that seen in the other.

American Journal of Obstetrics, York, Pa.

September

39 *Management of the Stages of Labor to Prevent Maternal Dystocia R C Norris, Philadelphia
40 Evolution of Modern Maternity Technic. E L Call, Boston
41 *Treatment of Acute General Septic Peritonitis J. F. W. Ross, Toronto
42 *Exfoliative Endometritis—Membranous Dysmenorrhea. H Ehrenfest, St Louis
43 *Heart Disease and Pregnancy J C Cameron, Montreal
44 Diseases and Injuries of the Cervix Uteri P. F. Chambers, New York
45 Gangrene of the Puerperal Uterus A J. Ronginsky, New York
46 Molluscum Contagiosum of the Genitals in Husband and Wife and of the Face and Neck of Their Infant Boy. J R Goodall, Montreal
47 Hour Glass Contraction of the Uterus During Labor E Sothoron, Washington, D C
48 *Treatment of Otitis Media Complicating Scarlatina and Measles E P. Fowler, New York
49 Congenital Pyloric Stenosis W C Schoenijahn, Brooklyn.
50 Reflex Neuroses in Children T. S D. Grasty, Washington D C
51 Syphilis in Pregnancy and Early Infancy. A. B Morse, Washington, D C

39. **Management of Stages of Labor.**—Norris points out that the prevention of inertia, of hemorrhage, and of lacerations, are in some respects antithetical topics. For the first the labor must be hastened; to avoid the second it must be neither too rapid nor too slow, and for the third, the termination of labor must be retarded. In the first stage, making allowance for side variations in different types of women, Norris' experience is that when the amniotic sac is unruptured, delay beyond twelve hours, associated with nagging, inefficient pains, is best treated by narcotics that allay irritability and produce sleep. Ten or fifteen grains of chloral repeated and re-enforced if necessary by 1/6 grain of morphin hypodermatically, will usually produce a sleep from which the patient awakes refreshed and with more efficient uterine contraction. He has found no advantage in combining hyoscin or scopolamin with morphin, and has little faith in quinin. In multiparæ with two thirds' dilatation the membranes may be ruptured. An edematous cervix nipped between the head and the symphysis should not be forcibly stripped back over the head, but a sterilized glycerin tampon should be held in contact with the cervical lip. Following the sleep produced by the narcotic, further delay in dilatation of the cervix and lower uterine segment is best treated by artificial dilatation, for which purpose Norris uses the Voorhees bag; when a forceps operation is likely to follow, the Pomeroy bag is chosen for primiparæ. In the second stage, as a rule, four hours in primiparæ and two in multiparæ should be the maximum limit. When corrections of abnormality, change in posture, frictions, the obstetric puller, hypodermic administration of strychnin and light intermittent ether analgesia have failed, Norris practices slow and deliberate forceps delivery. The prevention of hemorrhages is the proper management of the third stage of labor. He warns us that Credé devised his method not to separate, but to expel a separated placenta. If hemorrhage persists, aseptic ergot is injected into the thigh and the uterus is invaded with a gloved hand to remove clots, etc. While a hot sterile douche and appliances for the intrauterine pack are forthcoming, the vaginal hand should grasp the cervix, occlude it and push it upward forcibly to make traction on its blood vessels, and the abdominal hand should force the fundus downward and forward over the symphysis to angulate the canal, and further to stretch and occlude the vessels supplying the uterus with blood. At the same time, the ulnar surface of the abdominal hand may compress the aorta and the vena cava through the abdominal wall. Whether the bleeding results from back pressure in the veins or comes from the arterial circulation makes no practical difference. Both trunks will be compressed by this maneuver. If the hot intrauterine douche fails at once to stop the bleeding and cause uterine contraction, the uterus should be firmly tamponed with a large quantity of sterilized gauze, the tampon reaching from fundus to vulva. Norris discusses in detail inversion of the uterus, prevention of laceration of the birth canal, rupture of the uterus and lacerations of the cervix.

41. **Acute General Septic Peritonitis.**—Ross sums up the treatment as follows: To operate early, to incise amply, to repair carefully, to watch thoroughly, to manipulate gently, to perform rapidly, to close completely, and then to narcotize deeply.

42. **Exfoliative Endometritis.**—Ehrenfest bases his observations on the histologic examination of eight membranes obtained from three menstruating patients. He draws the following deductions from his investigations: Membranes expelled during menstruation in cases of so called membranous dysmenorrhea show the typical histologic picture of the normal endometrium during menstruation. They resemble so closely very young true decidua that at times a positive differential diagnosis becomes impossible. The exfoliation of these membranes is not the result of an inflammatory process, but is due to an exaggeration of certain normal and physiologic changes in the menstruating uterine mucosa. At this time the endometrium is divided into two distinct layers, a compact and a spongy stratum. This differentiation is the essential factor in the process of exfoliation. The actual detachment is probably effected by degenerative processes or hemorrhages which destroy the thin interglandular septa of the spongy layer. If the internal os is too small to permit the unhindered passage of the detached membranes, they are expelled by strong and painful uterine contractions.

43 **Heart Disease and Pregnancy.**—Cameron says that we have not been taught clearly enough that the various forms of heart disease affect pregnant women in different ways, and that it is fundamentally important to make an exact diagnosis before attempting treatment. He urges a routine examination of the heart in all pregnant women. Although endocarditis and valvular disease are serious complications of pregnancy, he holds that the danger has been very much over rated, and that the presence of heart disease is not a necessary, or even a very frequent, indication for the induction of abortion or premature labor. He considers the prognosis in the following order: mitral stenosis, aortic insufficiency, mitral insufficiency, alone, or complicated with stenosis or some aortic lesion. He discusses the treatment of pregnancy complicated with heart disease in general. With regard to the question whether the physician should sanction marriage in women with valvular disease, he says that the risks are always great, that pregnancy is certain to aggravate the disease and shorten life, and that it is the physician's duty to give the warning whether it is heeded or not.

48 **Otitis Media and Infectious Diseases.**—Fowler discusses otitis media complicating scarlatina and measles. On detecting an involvement of the middle ear he gives calomel, 1/10 grain every half hour for ten doses, produces diaphoresis by hot drinks, Dover's powder, etc., irrigates the canal of the ear with hot bichlorid solution, 1 to 5,000, or boric acid and normal salt solution at 110 F., using two quarts of fluid every hour, and inducing a combined hyperemia by means of a suction bell douche. Premature incisions of the drum should be guarded against but the membrane should be promptly incised on the first positive sign of confined pus in middle ear or mastoid. Meningeal symptoms or tumefaction in the posterior, superior walls of the external auditory canal near the drum demand prompt incision. If examination of pus from the middle ear shows the presence of streptococci, do not delay further operative measures if symptoms of mastoid involvement appear. Drainage once established must be maintained. The combination of suction and irrigation is efficient.

American Journal of Surgery, New York.

August

52 Treatment of Cancer of the Breast. J. B. Bissell, New York
53 Improved Technic for Radical Cure of Cancer of the Rectum F G Du Bose, Selma Ala
54 Appendicitis M Iverson, Stoughton, Wis
55 Practical Points in Anesthesia F E Neef New York
56 Three Cases of Gastroenterostomy, with Physiologic Effects on One Patient E G Jones, Atlanta, Ga
57 *Treatment of Gunshot Wounds G. F. Shiels, New York.

57. **Gunshot Wounds.**—Shiels insists that the surgery of gunshot wounds is simply surgery. There is no controversy

as to the handling of gunshot wounds anywhere except in the abdomen. Gunshot wounds must be considered aseptic, and unless there be evidence of disturbance of some vital structure which requires *immediate repair they* should be antiseptically dressed and left to take care of themselves. A consideration of the anatomy of the abdomen will at once make clear the improbability of a bullet traversing it without inflicting injury on some vital structure. If any intra-abdominal organ be punctured by a bullet, it may be safely assumed that the patient's life is jeopardized and surgical intervention is demanded. Three important questions are: 1. Should an operation be performed? 2. The choice of time and place for operation. 3. To drain or not to drain. As to the first question, let the surgeon ask himself whether, if he were the patient, he would take a chance that no organ was wounded, the peritoneum unsoiled, there was no hemorrhage, and that his recovery would run an uneventful course. If not, then all the authorities to the contrary notwithstanding, operation is called for. As to time and place, notwithstanding the immense advantages of hospital surroundings and capabilities overfearfulness of wound infection has reacted deleteriously on the work of the army surgeon. Delay itself is dangerous, and Shiels holds it wise for the surgeon to do all he can to render himself and his patient surgically clean, and to operate at once—that is, in the first place he can find where there is no danger of his patient, himself, or his assistants being shot—and not to wait for transportation to regimental or other hospitals. The question of drainage is decided by broad general surgical principles, which indicate that in all cases of doubt the wound should be left open and a method provided for the escape of toxic material, whether carried in by the wound-inflicting agent, or escaped from a wounded internal organ. He recommends free drainage of the abdominal cavity, and records a notable instance of its use.

Laryngoscope, St. Louis.

August.

58 Contour and Contents of the Epitympanum in Relation to Suppurative Disease. C. J. Drake, Boston.
59 *Simulation of Mastoid Disease by Furuncle of the External Meatus and Periauricular Abscess.* H. Gradle, Chicago.
60 Treatment of Suppuration of the Temporal Bone Other Than Surgical. C. F. Keiper, Lafayette, Ind.
61 Diagnostic Value of Symptoms of the Upper Air Tract in Rheumatism, Gout and Diabetes. E. Mayer, New York.
62 *Primary Tuberculosis of the Upper Respiratory and Alimentary Tracts, with Report of Two Cases of Primary Tuberculosis of the Uvula. E. A. Willis, Indianapolis.
63 Case of Subglottic Papilloma Cured by Laryngotracheal Fissure. T. J. Harris, New York.
64 Case of Primary Cancer of the Epipharynx. G. Kiaer, C[illegible] Denmark.
65 Ca[illegible] oma. H. Aufmwasser, Cincinnati.
66 Re[illegible] onsils an[illegible] the Throat [illegible] J. B. [illegible] Ala.
67 Apparatus for Administration [illegible] S Rupert, Philadelphia.
68 Irrigating Apparatus. F. Brawley, Chicago.
69 Unusual Termination of Case of Acute Mastoiditis. A. C. Magruder, Colorado Springs.

62. **Primary Tuberculosis of the Upper Air Passages.**—Willis discusses this subject at considerable length. The relatively small number of cases reported hardly justifies much generalization. Many of the presumably primary infections are at some time later disproved by indications of previous or concomitant general infection or local infection, which must have been overlooked at the time of earlier examination. These infections in the upper respiratory tract are very severe and rapid, but if treated early in their course the chances for cure are good. They are not easy to diagnose, for the clinical picture of tuberculosis is much like that of syphilis or neoplasm, so that we have to rely on the microscope or demonstration of the organism in culture medium or the animal inoculation test. In regard to the prophylaxis of primary tuberculous infections of these regions, we must bear in mind the factors in prophylaxis of tuberculosis in general; particularly, children and adults should be instructed that danger lies in careless picking at the nose to remove the little crusts that may accumulate in the nares, and that the nose should receive as careful attention in its daily treatment and care as any other part of the body. Mouth breathing should be corrected. Foreign bodies should not be put into the nose and mouth. Promiscuous kissing should be abandoned. The use of public eating and drinking utensils should be limited. Whenever slight chronic conditions of hyperemia of the mucous membrane exist, they should receive the attention of the physician, who alone should advise the douche or spray or gargle that may be needed. If all this were carried out, the result would be that systematic, complete and careful examinations of the upper respiratory and alimentary tracts would be made at regular intervals, and any suspicious conditions could be investigated at an early date.

Journal of the Arkansas Medical Society, Little Rock.

August.

70 *Medical Education of the Public. J. Price, Philadelphia.
71 *Rupture of the Heart. M. C. Hughey, Knoble.
72 *Case of Hydrophobia. J. S. Rinehart, Camden.
73 *The Necessity of Carefully Considering Any Diseased Condition of the Reproductive Organs of the Female, and What It Means to the Health of the Woman and Increase in Population. C. S. Pettus, El Dorado.
74 Morphin in Pain: A Reminiscence of the Civil War. L. J. Wilson, Almo.

70 to 73. Abstracted in The Journal, July 18, 1908, pages 248 and 250.

Monthly Cyclopedia and Medical Bulletin, Philadelphia.

August.

75 *Some Commonly Overlooked Causes for Stomach and Bowel Disturbance. R. T. Morris, New York.
76 Gout: a Disease of the Metabolism: Its Treatment. O. T. Osborne, New Haven, Conn.
77 United States Pharmacopeia—A Therapeutic Standard. J. P. Remingto[illegible]
78 Hyperesthetic [illegible] er): Its Pathogenesis and Treatment. [illegible] Philadelphia.
79 Acute Ecthyma. J. V. Shoemaker, Philadelphia.
80 Negative Diagnosis of Tuberculosis. E. Cutter, Boston.
81 *Rapid Method of Test Meal Removal, Lavage and Inflation. F. A. Faught, Philadelphia.

75. **Stomach and Bowel Disturbance.**—Morris points out that most cases of bowel and stomach disturbances are nothing more than symptoms like a cough or a sneeze. He discusses several overlooked causes, the first of which is an appendix *undergoing infective or degenerative* changes. An acute infective invasion of the appendix is not likely to be overlooked, but an appendix undergoing fibroid degeneration is an irritating lesion which takes more patients to the physician's office than any other kind of appendix trouble, though it generally goes unrecognized. The contracting scar tissue pressing the nerve filaments of the appendix excites the intimate ganglia of the bowel (Auerbach's and Meisner's plexus) and the function of the bowel is deranged. This type differs from the scarred appendix of acute infective disease, in that the latter also destroys the nerves. Consequently, the stomach and bowel disturbances are rarely persistent, as they are in the fibroid degenerating form. Among other overlooked causes of stomach and bowel disturbance Morris mentions eyestrain, bile-tract adhesions and loose kidney. He describes the following method of differential diagnosis between the various overlooked causes of stomach and bowel disturbance. He says, in the first place, we will call up a central telephone station of a pair of points situated approximately an inch and a half from the navel, on either side, representing the lumbar ganglia, and which gives testimony as soon as we ask for it, by making deep pressure with the fingers, to determine whether the right group or the left group is hyperesthetic, singly or together, or not at all. If we start out with examination of the pair of points, we shall find that this examination is of equal importance with urinary examination in older fields of work. If the dyspepsia is caused by fibroid degeneration of the appendix, we shall find hyperesthesia at the point on the right side of the navel, singly and alone. If by sigmoiditis, we shall find the left group of ganglia hyperesthetic, singly and alone. If by some pelvic condition, we shall find hyperesthesia at both right and left points; for instance, if an appendix and an oviduct happen to lie side by side in the pelvis and we can not determine by ordinary means which one is the source of irritation, call up the pair of points and find out. If it is the appendix, there will be hyperesthesia at the right point alone; if it is the oviduct, there will be hyperesthesia at both points. We can

thus often trace the cause for a dyspepsia to a hernia or to hemorrhoids. Morris recently traced it in an obscure case to a distended left seminal vesicle that turned out to be a primary focus for tuberculosis, which is rare. If there is hyperesthesia at neither of the pair of points, look for something above the level of the umbilicus for the cause of dyspepsia Take up the question of eyestrain or of bile-tract adhesions, or some of the commonly recognized causes for dyspepsia

81. **Test Meal.**—Faught describes the following apparatus and technic for a rapid method of test meal removal, lavage and inflation, which does away with uncertainty and uncleanliness, and shortens the time, obviates the necessity for an assistant, and permits also the outlining, irrigation and medication of the stomach. He describes the method of outlining the stomach. Two bottles which are graduated in centimeters are placed on a convenient table and one is filled exactly to the 500 cubic centimeter mark with warm sterile water. The double perforated stopper is fitted with a valve in one hole and a section of large diameter glass tubing is made to extend through the other opening to reach to the bottom of the bottle This stopper, with its attachments, is placed firmly in the mouth of the empty bottle

The two horizontal arms of the valve are connected by means of short sections of rubber tubing with the two ends of the double action Davidson bulb. The gastric tube, which should be extra long and of large caliber (from ½ to ⅝ inch), is connected to the projecting end of the glass tube. Before passing the tube, test the position of the valve and set it to make negative pressure within the bottle. These preliminaries completed, the gastric tube is inserted and carried in until the mark on the tube approaches the incisor teeth. Now, holding the tube in place with one hand, a few rapid pressures are made on the bulb This will usually cause the gastric contents to flow into the bottle. During the procedure, should sudden stoppage of the flow occur before sufficient material has been recovered, this obstruction may be readily overcome by momentary reversal of the valve; this being followed by one or two pressures on the bulb will drive out the obstruction. Now, returning the valve to its original position, the removal may proceed. In the event of failure to obtain a specimen by this means, then the addition of a quantity of water to the contents of the stomach becomes necessary *to accomplish the end* For this purpose the stopper with its attachments is transferred to the bottle containing 500 c.c. of water, when the valve is set for compression, and about 400 c.c. of this water gradually run into the stomach. The valve is then reversed and by continued manipulation of the bulb all material possible is removed from the stomach. It is essential for quantitative computations that at the end of this effort more than 500 c.c. be recovered

Texas State Journal of Medicine, Fort Worth.

September

82 Instructions on Venereal Diseases and Sex, Addressed to the Women of Our State in the Interest of the Home and Public Health M Duggan, San Antonio, J M. Frazier, Belton, W. W Long, Sulphur Springs
83 Dengue. M L. Graves, Galveston
84 Tonsillectomy and Its Necessity F. D. Boyd, Fort Worth

New Orleans Medical and Surgical Journal.

August

85 A Case of Fecal Obstruction of Small Intestine, with a Plea for Earlier Recognition and Treatment of Intestinal Obstruction E Williams, Patterson
86 Headache of Nasal Origin. A I Weil, New Orleans
87 Review of Gastrojejunostomy, with Report of a Case R E Stone and J D Tuten, New Orleans
88 Report of One Hundred Cases of Appendicitis S W. Stafford New Orleans
89 *Use of Nitrate of Silver in Typhoid Fever. G F Patton New Orleans
90 Vaccine Therapy in Gonorrhea A Nelken, New Orleans

89. **Silver Nitrate in Typhoid.**—After twenty years' experimentation Patton feels sufficient confidence in results obtained with silver nitrate, administered in an acid solution, to warrant him in adopting and recommending it for the purpose of exerting local action on the bowel regions Two prerequisites to this treatment are: 1. Prompt and thorough cleaning of the bowel; 2, rigid adherence to liquid forms of nourishment. Calomel in fractional doses at short intervals is the best method for clearing the bowels. Broths and beef juice are preferable as liquid foods to milk. The food should be administered at regular intervals for four hours, the mixture being given before food. Patton's formula is as follows:

Argenti nitratis cryst		13		gr. ii
Acidi nitrici diluti .		55	or	m. x
Mucilaginis acaciæ et aquæ dest, āā .	30			℥i

M Sig.: A teaspoonful in a wineglassful of water one hour before food as directed.

Patton quotes Pepper's method, and his remark that the treatment may be continued through the entire course of the case, as much as twenty-five grains being given without fear of discoloring the skin.

California State Journal of Medicine, San Francisco.

September

91 *Relation of Anticyclonic Weather to the Prevalence of La Grippe and Pneumonia on the Northern Hemisphere, with Special Reference to Recent Epidemics of Pneumonia in Chicago and San Francisco C M Richter, San Francisco
92 Review of Recent Work on Tuberculosis L. S Mace, San Francisco
93 When Is Gonorrhea Cured? J. C. Spencer, San Francisco
94 Id G S Peterkin, Seattle.
95 *Seborrhea and Its Sequelæ E D. Chipman, San Francisco
96 Clinical Features of Influenza Since the Pandemic of 1889 1890

91 This article appeared in THE JOURNAL, Aug. 22, 1908, p 660

95 **Seborrhea.**—Chipman discusses seborrhea and in conclusion says that one who watches the development of seborrheic disease, sees the manifold phases which it demonstrates in itself, sees how it modifies the appearance of other concurrent dermatoses, must be impressed with its potentiality. While the etiology of cancer is unknown, at least we may be permitted to infer from the abundance of clinical evidence that the seborrheic state renders the skin much more than ordinarily vulnerable to the epitheliomata. The obvious moral is that just as we excise moles and pigmented nevi for fear of subsequent malignancy, just so should we treat radically the group of precancerous affections related to seborrhea, but better yet treat early and persistently all seborrheic manifestations, directing special attention to the scalp as their ultimate source.

Progressive Medicine, Philadelphia.

September.

97 Diseases of the Thorax and Its Viscera, Including the Heart, Lungs and Blood Vessels W Ewart, London, Eng
98 Dermatology and Syphilis W S Gottheil, New York.
99 Obstetrics E P Davis, Philadelphia.
100 Diseases of the Nervous System W. G Spiller, Philadelphia.

American Journal of Urology, New York.

September.

101 *Renal Disease During Pregnancy, Labor and Puerperium B Baumann, Munich, Germany.
102 Internal Urethrotomy Combined with Incision of the Focus in Treatment of Urinary Infiltration. C Moy, Paris

101 **Nephritis of Pregnancy.**—Baumann says that, in the kidney of pregnancy and the nephritis of pregnancy, so long as there is no eclampsia, the prognosis for the mother is comparatively favorable. He has records of only two cases in which the renal affection became chronic. The maternal mortality is slight. No patient was operated on on account of threatening symptoms. The fetal prognosis is more unfavorable because frequently premature labor results and the child is either born dead or without vitality on account of the lack of development In his cases, the fetal mortality, when no eclampsia occurred, was 8 out of 47, in other words, 17 per cent. On the other hand, if the nephritic symptoms are combined with eclampsia, the prognosis, especially for the mother, is worse, because 11 out of 54 eclamptics died, making a mortality of 20 per cent. Of the 54 births in eclamptics, 17 were spontaneous, and here only one mother died, in other words, a mortality of 6 per cent.; that of the children was 41 per cent. Twenty three labors were instrumental and the mortality to the mother was 22 per cent.; that of the children 35 per cent. Consequently, the total mortality of the children in eclamptic patients was 37.5 per cent. Dilatation of

the os was resorted to in 8 cases, with 1 death. The forceps was resorted to 10 times, with 2 deaths to the mother; 7 times version and extraction were done, resulting in 3 deaths to the mother, while in one patient Cesarean section was done in mortua; the child died. The high percentage of mortality in operative interferences can be explained by the fact that it is the most severe cases that require interference. The therapy of nephritis of pregnancy and pregnancy kidney consists in rest in bed and a milk diet, as long as no other threatening symptoms are manifest. If the patient is drowsy, restless, etc., then hot baths should be ordered, likewise hot packs, in order to promote diaphoresis. Lastly, in threatened eclampsia, chloral hyrate and chloroform are indicated. Chloral hydrate in a dose of one or two grams per rectum and inhalations of chloroform, accompanied by the usual therapeutics of nephritis, represent all that can be done.

Buffalo Medical Journal.

September.

103 Surgical Treatment of Varicose Veins. C. G. Cumston, Boston.
104 Intestinal Obstruction. W. H. Loughhead, Andover, N. Y.
105 *Staining of Tubercle Bacilli in Tissue Preserved in Alcohol for Sixty Years. A. A. Thibaudeau, Buffalo.
106 Activities and Interests of the Buffalo Academy of Medicine. A. A. Jones, Buffalo.

105. **Staining of Tubercle Bacillus.**—Thibaudeau reports a case of the persistence of staining property of the tubercle bacillus in specimens of tuberculous lung preserved in alcohol in the museum of the University of Buffalo since 1848—sixty years. The staining was done with carbol fuchsin, decolorized with 0.33 per cent. hydrochloric acid and counterstained with 70 per cent. alcohol. No bacilli were found in smears from chronic fibroid phthisis.

Pennsylvania Medical Journal, Athens.

September.

107 *Perforation of the Alimentary Canal by Swallowed Bodies, with Report of Two Cases. G. G. Ross, Philadelphia.
108 Acute Inflammation of the Middle Ear. F. W. Frankhauser, Reading.
109 Fifteen Cases of Anthrax Treated in the Philadelphia Municipal Hospital with Antianthrax Serum. B. F. Royer and E. Burvill-Holmes, Philadelphia.
110 *True and False Myxoma of the Pelvis. G. E. Shoemaker, Philadelphia.
111 Ileocolitis in a Boy of Three, Complicated by Tapeworm. M. Ostheimer, Philadelphia, and H. A. Spangler, Carlisle.
112 *Permanent Suprapubic Drainage for Relief of Prostatic Obstruction. R. W. Stewart, Pittsburg.
113 Bacterial Inoculations. D. H. Bergey, Philadelphia.
114 Diagnosis of Glycosuria and Diabetes. A. Stengel, Philadelphia.
115 Legislation Concerning the Registration of Nurses in Pennsylvania. C. P. Noble, Philadelphia.
116 Nephritis as a Complication and Sequel of Measles. J. P. C. Griffith, Philadelphia.
117 Septal Perforations; Closure by Plastic Operations. C. Jackson, Pittsburg.
118 Rest as an Important Factor in Non-operative Treatment of Gynecologic Disorders. E. A. Weiss, Pittsburg.
119 *Excision of Rectum for Cicatricial Stricture by the Combined Method, with Preservation of the Sphincter. J. J. Buchanan, Pittsburg.

107. Abstracted in The Journal, Nov. 2, 1907, p. 1549.

110 and 119. Abstracted in The Journal, Nov. 9, 1907, p. 1624.

112. Abstracted in The Journal, Oct. 26, 1907, p. 1464.

Archives of Ophthalmology, New York.

September.

120 Increasing Importance of Tuberculosis as a Cause of Ocular Disease. Newer Methods of Diagnosis and Treatment. G. S. Derby, Boston.
121 Diagnostic and Therapeutic Value of Tuberculin in Tuberculous Eye Disease. E. Török, New York.
122 Tuberculosis of the Fundus Oculi. W. Krauss, Marburg, Germany, and A. Brueckner, Würzburg, Germany.
123 Paralysis of the Abducent Nerve Associated with Otitis Media. A. Knapp, New York.
124 Cyanosis Retinæ. H. H. Tyson, New York.
125 Improved Method of Bleaching Pigmented Tissues. F. H. Verhoeff and C. Fisher, Boston.
126 Consanguinity a Cause of Congenital Nystagmus. W. H. Dudley, Los Angeles.
127 Contusion of the Eyeball, with Special Reference to Traumatic Aniridia and Aphakia. J. Fejer, Budapest.
128 Pigmentation of the Retina from the Vitreous Chamber. Typical Retinitis Pigmentosa. E. V. Knape, Finland.
129 Herpes Zoster Ophthalmicus and Paralysis of the Trochlearis. Dr. Casper, Mülheim.
130 Rare Case of Persistent Pupillary Membrane. K. Rumschewitsch, Kief.

Mississippi Medical Monthly, Vicksburg.

September.

131 Plea for More Thorough and Optimistic Treatment of Pulmonary Tuberculosis in Private Practice. M. D. Ethridge, Sandersville.
132 Enterocolitis—Treatment. S. P. Klotz, Summit.
133 Puerperal Septicemia. H. P. Reid, Rena Lara.
134 Hemorrhages of Pregnancy. R. E. Higdon, Brookhaven.
135 Summer Diarrhea in Children. R. H. Speck, Hushpuckena.

Southern California Practitioner, Los Angeles.

August.

136 County Medical Society; Its Work. J. Q. Flinn, Prescott, Ariz.
137 Congenital Dislocation of the Hip Treated by Open Operation. W. W. Richardson, Los Angeles.
138 Scarlet Fever Epidemic in Jerome, Ariz., 1907. L. P. Kaul, Jerome.
139 Adenoids. H. A. Kiefer, Los Angeles.
140 Present Status and Trend of Psychiatry. C. L. Allen, Los Angeles.
141 Psychotherapy. T. J. Orbison, Los Angeles.
142 History of Early Anesthesia. T. G. Davis, Los Angeles.
143 Perineal Laceration. E. H. Wiley, Los Angeles.

Archives of Pediatrics, New York.

August.

144 Modern Babies' Dispensary. H. J. Gerstenberger, Cleveland.
145 Dental Caries as a Cause of Disease in Children—Preventive Measures. Dental Clinics. C. Herrman, New York.
146 Distribution of Bacteria in Bottled Milk and Its Application to Infant Feeding. A. F. Hess, New York.
147 Report of an Epidemic of Eighty Cases of Rubella. M. Michael, Chicago.
148 Congenital Laryngeal Stridor Apparently Due to an Enlarged Thymus Gland. A. W. Myers, Milwaukee.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

September 12.

1 *Anomalous Pyrexia in Children. E. Cautley.
2 *Differential Diagnosis of Fevers. D. W. Sutherland.
3 Cause and Prevention of Dental Caries. J. S. Wallace.
4 *Chronic Morphinism and Its Treatment. A. Gamgee.
5 Two Cases of Gallstone Ileus; Operation: Recovery. G. P. Newbolt.
6 Action of Two Sera on Carcinoma in Mice. C. E. Walker.
7 Fatal Toxemia After Administration of Chloroform. M. F. Taylor.
8 Case of Acute Cantharides Poisoning. J. S. Avery.

1. **Anomalous Pyrexia in Children.**—Cautley discusses fever in the newborn, fever commonly held to be due to teething, that due to inflammation of the throat and nasopharynx, that form due to intestinal infections and toxemias, the infectious fevers, rheumatism, pyelitis, the fever of neurotic children, and gives instances of fever of unknown causation. He discusses the diagnosis and prognosis and concludes that in practice these cases of obscure fever are a source of anxiety to all concerned, unless the patient is too young to take an absorbing interest in the affairs of life. High fever, with apparently little general malaise, is usually of less serious import than the temperature suggests. Much more importance should be attached to the general state of the child than to the actual height of the fever. Irregular fever for a prolonged period necessitates repeated thorough examination. In his experience, either a definite or a probable cause is found or the patient gets well. The prognosis, therefore, should be guarded but favorable. He is strongly of the opinion that it is wiser to state to the relatives that there is no discoverable cause for the fever and that they must have a little patience, rather than to jump at a double diagnosis or make alarming suggestions of malignant endocarditis, tuberculosis, or other deadly complaint.

2. **Differential Diagnosis of Fevers.**—Sutherland says that the following postulates may be assumed in any given case of fever: 1. The cause of the fever must be either infective or non-infective (Modern knowledge tends to show that the cause is almost always infective). 2. If the case be infective, a parasite of some one or other class must be present somewhere, either inside the body or in relation to one of its surfaces, and, unless ultramicroscopic, is in all probability discoverable. 3. Such parasite must be either (a) bacterial (coccus, bacillus, vibrio, fungus); (b) protozoal (ameba, piroplasma, Leishman-Donovan body, spirillum, trypanosome, etc.);

or (c) vermicular (worm embryo or worm). 4 The infection must be either (a) a local infection of the skin or of some mucous surface of entrance or exit; (b) a general infection of the circulation; (c) an infection of the spleen or a localized infection of the lymph circulation; or (d) an intoxication from without. 5 If it be a local infection the parasite will excite local reaction wherever it has lodged, which will be likely to reveal itself by local symptoms and physical signs; and probably the parasite will be discoverable in some one or other secretion or pathologic discharge. In addition, the blood should *show evidence of entry of toxins into it from some one or* other source 6. If it be a general infection of the circulation it must be possible to find the parasite (unless ultramicroscopic) in the blood, or to obtain evidence of its presence. 7. If it be an infection of the spleen, or a localized infection in the lymph circulation, the blood should show signs of disorder in some one or other of its hemopoietic tissues, and it should be possible to find the parasite or to obtain evidence of its presence in the spleen, or in some one or other lymphoid or lymphatic structure. 8. A negative finding on all these points would imply that the cause is non-infective Sutherland then describes in detail the procedures that should be carried out step by step until a definite diagnosis is reached, which will explain all the clinical features of the case.

4 **Chronic Morphinism.**—Gamgee discusses under several heads the essential cause of the groups of symptoms which constitute morphin craving in its most characteristic forms; the clinical features of the morbid manifestations which accompany abstinence from morphin in those who have become addicted to its use; the general lines on which the treatment of chronic morphinism must be conducted, with a discussion of the reasons which lead him to condemn the method of sudden and complete withdrawal; and the methods by which the individual phenomena of morphin craving or morphin hunger, as it has sometimes been denominated, may be combated when they come on in a patient whose strength of will and courage have caused him to consent to an abnormally rapid diminution inconsistent with an absolutely painless cure. Lastly he considers cases in which chronic morphinism is complicated by the cocain habit He is strongly opposed to the method of sudden and total suppression of the drug—a violent and positively cruel system which is marked by almost invariable relapse However morphin is introduced into the system, it rapidly makes its way into the lymph The amount, doubtless at first comparatively insignificant, lessens irritability of contractile tissues, slows protoplasmic activity, then stimulates and finally depresses activity of cerebral and spinal neurons The continued renewal of this effect leads to a complete change in environment of the protoplasm, which ultimately becomes dependent for its functioning on the morphin. 'As the quantity of this adventitious agent reaches the normal amount to which they have habituated themselves, they, and the organism of which they are individual units, are in a condition of physiological happiness When the amount of morphin ebbs or disappears the protoplasmic units, suffering a real though adventitiously produced morphin hunger, can not function aright and the whole organism suffers." Gamgee, therefore, strongly champions the German method of gradual withdrawal (Entziehungskur), the details of which he describes.

British Medical Journal, London.

September 12

9 Relation of Physiology to Physics and Chemistry J S Haldane
10 *Chorea G Rankin
11 Three Cases of Paraplegia J M Clarke
12 *Bulbar Paralysis Followed by Progressive Muscular Atrophy J F Little and T J Bokenham
13 Value of Tele Radiography in Diagnosis E R Morton
14 *Diagnosis of Pulmonary Tuberculosis by the Roentgen Rays C L Leonard
15 Interrupted Currents in Medical Practice H L Jones
16 Use of Bismuth in Diagnosis of Conditions of Esophagus and Stomach C T Holland
17 Pathologic Conditions and Results of Operations on Esophagus and Stomach A E Barclay
18 Bismuth Salts and the Functions of the Stomach A F Hertz
19 Fallacies in the x Ray Diagnosis of Renal and Ureteral Calculi G H Orton
20 *Hemorenal Index D F D Turner
21 *Therapeutic Action of Radium W D Butcher
22 Diagnosis and Electrical Treatment of Nerve Injuries of the Upper Extremity W Harris
23 Localization of Foreign Bodies by a New Method. W. I Bruce
24 X Ray Dermatitis and Its Prevention J F Hall-Edwards
25 Relation of Disease of the Accessory Nasal Sinuses to Diseases of the Eye A L Turner
26 *Id* G *Mackay*
27 Glaucoma as a Consequence of Leucoma Adherens E Fuchs
28 Monocular Diplopia W B I Pollock
29 Serum Therapy in Diseases of the Eye Professor Axenfeld
30 Filtering Cicatrices by Two Methods H Herbert
31 Color Vision and Its Anomalies F W Edridge Green
32 Glycerin as an Adjuvant to Silver Nitrate B Harman
33 Seasonal Prevalence of Acute Glaucoma in India. F P Maynard
34 Anatomic Factors in Pathogenesis of Glaucoma T. Henderson

10. **Chorea.**—Rankin asserts that the proximate cause of chorea is probably a micro organism similar to that of rheumatism, the toxins of which are responsible for the nervous manifestations But *in any case the direct excitant is in many* instances some form of emotional disturbance. He describes the onset of an attack and points out that the characteristic movements described as purposeless are really exaggerated reproductions of voluntary movements which would be purposive if they were sufficiently under the control of the will. The disease presents no marked sensory disturbances though there may be numbness, aching pains, etc It usually runs a chronic course of from eight to twelve weeks, but may be prolonged by exacerbations and remissions over four or six months The most frequent complications are those with which we are familiar as appearing in association with rheumatism. No constant lesions are found in the nervous system which can be regarded as the anatomic basis of the disease, though various changes have been noticed by different authorities The prognosis in children is favorable as regards recovery from the attack, though permanent cardiac trouble must always be borne in mind. In treatment, the child should be put to bed and kept there until all movements have ceased, in order to minimize the risk of cardiac complications and expedite the tendency to natural recovery. There is no specific, but the best results are obtained from arsenic. He recommends Fowler's solution for children 8 years old in 3 minim doses and increased until within a week the child takes 10 minims three times a day. Children bear arsenic well. To check the incessant movements and prevent exhaustion he relies on chloral hydrate Cold douches or icebags to the spine are worthy of trial in extreme cases

12 **Bulbar Paralysis.**—The general hopelessness of bulbar paralysis with or without complications leads Little and Bokenham to report a case of bulbar paralysis, followed by progressive muscular atrophy in which great benefit was undoubtedly obtained from treatment The method adopted was application on alternate days of medicated electrodes, with the patient placed on an insulating platform, the pad being connected with the positive side of a static machine, the negative pole of which was grounded The dischargers were then arranged so as to give a powerful "Morton wave" current. In addition, local application of similar current was made by means of a glass vacuum electrode over the affected muscles and their motor points The patient notwithstanding the great symptomatic improvement in every way, died suddenly about three months later, without any evidence of pain or respiratory embarrassment It was described as a simple falling asleep The results obtained warrant the authors in recommending *in earlier stages of bulbar paralysis the application of intermittent* electric currents at high tension by means of electrodes impregnated with drugs capable of introduction by the ionic medication method.

14 **Roentgen-Ray Diagnosis in Pulmonary Tuberculosis.**—Leonard holds that the clinical proof is still wanting to confirm the hyperenthusiasts, who believe that they can detect with accuracy pretuberculous congestion. More recent improvements in apparatus and technic, however, make possible, with instantaneous exposures, the detection of bronchial glands and areas of infiltration about the roots of the lungs, where neither percussion nor auscultation can reach them, and before the bacteriologic test has determined their etiology, and only the symptom complex suggests tuberculous disease.

He describes the apparatus whereby the production of pictures by instantaneous exposure is attainable.

20. **Hemorenal Index.**—Turner discusses the hemorenal index and reports a case which goes to show that when the kidney substance is affected the hemorenal index will be found to be low, and an improved index coincides with improvement in the case. It affords a means of testing the renal capacity so far as regards the elimination of salts, and is another attempt to apply precise scientific measurement to surgery.

21. **Radium.**—Butcher describes the application of radium in many conditions and says that its power relieving pruritus is one of its most precious properties. He describes its use for removing cutaneous thickening after cicatrization of rodent ulcer, its power of reviving the failing action of x-ray treatment, and its use in lupus, cutaneous epithelioma and in nevus. He believes that radium irradiation would prove the ideal treatment for primary syphilis. Many patients who would object to excision of a suspicious abrasion after possible inoculation would not hesitate about a precautionary irradiation. In a case of a primary syphilitic sore, he would be inclined to irradiate indurated glands also. In secondary syphilitic infiltrations radium irradiation is of great value. Butcher uses 10 milligrams of radium bromid from Brunswick, which is said to have a radioactivity of 1,800,000 uranics.

Medical Press and Circular, London.

September 9.

35 *Educational Number.

35. **Educational Number.**—This issue contains no original articles, but is almost entirely taken up with information concerning medical education in the United Kingdom.

Clinical Journal, London.

September 9.

36 Résumé of Recent Clinical Studies of Atheroma and Arteriosclerosis. G. Oliver.
37 *Congenital Pyloric Stenosis. R. Hutchison.
38 Clinical Aspects of the Choice of Anesthetics, with Special Reference to the C. E. Mixture. L. E. Ellis.

37. **Congenital Pyloric Stenosis.**—Hutchison discusses the vomiting after food which takes place in infants a few weeks old, who are suffering from congenital pyloric stenosis, and notes that when a new food is tried it commonly seems to suit the child for a period of twenty-four hours or so, then intermittent vomiting occurs. The vomiting is not, strictly speaking, congenital, as it begins usually ten or fourteen days after birth. It is projectile, and much more is brought up than the child swallowed at its last meal. There is also a quantity of slime. Progressive loss of weight and constipation are other symtoms. Physical signs are emaciation and visible stomach peristalsis. The thickened pylorus can frequently be felt to the right of the umbilicus, and gastric dilatation can be shown to be present. Hutchison discusses the pathology. The most important thing in treatment is to wash out the stomach every day or twice a day if need be, preferably with a weak solution of sodium bicarbonate, 1 dram to 20 ounces. As to feeding, breast milk is the best. If the child is off the breast, it is a good plan to get a wet nurse. After human milk the next best thing, he says, is fully peptonized milk diluted with an equal quantity of water. The intervals of feeding must be regulated by finding out what the child can stand without being sick. Hutchison does not consider drugs of any use, but he mentions that opium, in doses of from 1/20 to 1/40 of a minim of the tincture shortly before each feeding is extolled particularly by Germans. He has, however, known a child rendered comatose by 1/20 of a minim of opium before each feeding for less than a day. He has tried alkalies and belladonna without effect. Out of 14 patients all but one recovered, and in his opinion operation is not justified in these cases.

Journal of Obstetrics and Gynæcology of the British Empire, London.

August.

39 *Anatomy and Histology of an Early Tubal Gestation. H. Wade and B. P. Watson.
40 *History of the Literature of the Toxemia of Pregnancy. F. H. Champneys
41 Case of Retroperitoneal and Retrovesical Hydatid Cyst, Associated with Two Omental Cysts of the Same Nature. G. A. Casalis.
42 Pregnancy and Labor Complicated by Rectal Cancer. J. A. Kynoch.

39. **Early Tubal Gestation.**—Wade and Watson describe a case of tubal pregnancy probably between the second and third week in which the affected portion of the tube was examined by means of serial sections, 1,971 in all, and the other pelvic organs were obtained postmortem in a fresh condition, so that a complete picture can be presented. In discussing the results of the examination the authors take up the points as follows: 1. The anatomy of the pregnant tube, especially with reference to the possibility of the presence of diverticula of the lumen. 2. The mode of embedding the ovum. 3. The reaction of maternal tissue to the growing ovum—is there decidual formation in tissue other than uterine? 4. The trophoblast and its mode of invasion. 5. The ovum with its embryo and membranes. The authors say that judging from the appearances in the tube wall, more especially at the site of rupture, it would appear that the trophoblastic invasion is most marked at those places where there is a failure of response on the part of the maternal tissue, and where fibrin formation has not occurred to any great extent. This fibrin formation, together with the reaction which occurs in the endothelial lining of the vessels, the possible migration of endothelial cells through the vessel walls, and the changes of a decidual character in the connective tissue cells, all seem to be for the purpose of, or at least to result in, an arrest in the rate and extent of advance of the fetal epiblast. If this view of the decidua is correct, it must be looked on, not simply as a suitable bed in which the ovum can bury itself, but as a barrier laid down to prevent the too great destructive action of the trophoblast. The absence of any distinct decidual membrane in the tube wall would thus readily explain the frequency of tubal rupture. The article is freely illustrated in colors and half-tones.

40. **Toxemia of Pregnancy.**—Champneys discusses Whitridge Williams' views on the toxemias of pregnancy "which must always form a part of the literature of a very important and obscure chapter in medicine, though the relation of the ammonia coefficient to toxemia still requires confirmation and elucidation." He criticises, however, the introduction of the class of reflex causes for the vomiting of pregnancy, believing that reflex cases are either instances of faulty logic or properly belong to the second or neurotic class of vomiting pregnancy. He thinks that Williams understates the credit due to Matthews Duncan in reference to the relation between toxemia and some cases of vomiting pregnancy. He describes the teaching at St. George's and St. Bartholomew's Hospital from 1881, which he summarizes as follows: Vomiting of pregnancy falls into two groups, which should be carefully distinguished, both as regards treatment and prognosis, namely, 1, those due to neurosis; 2, those due to poisoning. Those due to neurosis do not, generally, threaten life; those due to poisoning do. Those due to neurosis can generally be cured by appropriate treatment; those due to poisoning, when severe, require the immediate interruption of pregnancy, which procedure, however, may fail to save the patient. A long experience, he asserts, enables him to affirm that toxemic vomiting of pregnancy is of the greatest rarity, and that a man may well fail to see a single case in practice extending over many years. He quotes a case of each form. The neurotic patient was treated with full doses of bromid to abolish reflexes and to make an absolute break in the continuity of consciousness. The patient must be kept asleep the whole time. He has followed this plan with good results and has never seen it recommended elsewhere. He has never had occasion to terminate pregnancy in neurotic vomiting. In the toxemic case the uterus was quickly and safely emptied and, although the prognosis appeared bad, the patient made a rapid recovery.

British Journal of Children's Diseases, London.

August.

43 *Defensive Arrangements of the Body as Illustrated by the Incidence of Disease in Children and Adults. Sir Watson Cheyne.
44 Henoch's Purpura and Intussusception. H. Lett.

43. This article was published in the *Lancet*, June 27, 1908, and was abstracted in THE JOURNAL, July 25, 1908, p. 353.

Annales de Médecine et Chirurgie Infantiles, Paris.

September 1, XII, No. 17, pp. 577-612.

45 *Special Characteristics of Digestion and Nutrition in Early Infancy. (Considérations générales sur l'enfance, ses périodes, ses maladies.) A. B. Marfan.

45. **Digestion and Nutrition in Infants.**—Marfan reviews recent works on infant feeding and pathology, giving a detailed picture of the modern views on these subjects. He asserts that at birth the infant's organs are unfinished, and especially the apparatus for defensive reactions. When its nutrition is not proceeding perfectly, the defensive processes against the microbes—intimately connected with the nutritive processes—become insufficient. Lacking mother's milk, the child misses certain protecting substances elaborated in the maternal organism, such as antitoxins, agglutinins and alexin. In the infant the enzymes have two origins: some come from the breast milk; others it elaborates itself. If the infant has vitality enough to produce its own enzymes in sufficient amounts, it can get along without those in the breast milk. But its normal growth will stop if its power of producing enzymes becomes weakened from any cause. In this case it will not obtain any enzymes, and its development will suffer if both sources of the enzymes are exhausted. Thus the effect of infections on the nutrition of young infants varies with breast and artificial feeding, and with the degree of perfection or imperfection of the infant's enzyme-producing powers. The infant born with congenital weakness is thus on a par with the infant artificially fed who becomes atrophic in consequence of some malady; in both there is the same insufficiency of the enzyme-producing power. In the first case it is the consequence of some intrauterine affection for which the mother is responsible; in the second, it is the consequence of some extrauterine affection. The recent researches undertaken from various standpoints all confirm and explain the superiority of mother's milk over artificial feeding.

Presse Médicale, Paris.

September 2, XVI, No. 71, pp. 561-568.

46 *Measurement of Systolic Blood Pressure. (Mesure de la pression systolique chez l'homme.) G. Weiss.
47 *Mental Affections and Serum Diagnosis of Syphilis. (Aliénation mentale et réaction de Wassermann.) G. Raviart, M. Breton, G. Petit, Gayet and Cannac.
48 *Physiologic Loss of Weight in Thin Dyspeptics. (Amaigrissement favorable chez les dyspeptiques maigres.) G. Leven.

46. **Measurement of the Systolic Pressure.**—Weiss gives an illustrated description of the Bloch, Potain, Riva-Rocci and the Gaertner technics, dwelling on the causes of error in each and the way to avoid them so far as possible. The most reliable results are obtained, according to his experience, with the sphygmo-signal of Vaquez, a modification of the Riva-Rocci apparatus. The Vaquez apparatus has two cuffs, one above and one below the elbow. The "compressor" and the "explorer," being independent of the operator, give the most reliable results. The blood pressure is modified to such an extent by any exercise or emotion that even a brief walk to the office or apprehension of the procedure or vasomotor disturbance from prolonged compression or sensation of heat or cold, or other cause of vasoconstriction or dilatation, even in a single limb, may modify deceptively the arterial pressure.

47. **Serum Diagnosis of Syphilis in Mental Affections.**—This article tabulates the findings in 400 inmates of an insane asylum. The Wassermann test gave positive findings in every case of certain syphilis except in one instance in which infection was only four months old. The coexistence of a positive response and the stigmata of inherited syphilis was striking. The response was always positive also in general paralysis plus tabes and in tabes alone, and in 93 per cent. of 72 patients with general paralysis. It was also positive in 77.6 per cent. of 62 cases of semi-idiocy, in 69.9 per cent. of 73 cases of imbecility, and in 73.7 per cent. of 19 cases of dementia præcox. Thus, of 158 patients with arrested mental development, 48 gave a positive response; this seems to show that syphilis plays an important part in the etiology of psychic infirmities. The list of physical stigmata shows a striking proportion of positive responses to the test: 70 per cent. in 45 cases of asymmetry of the face or skull; 58 per cent. in malformation of the genital organs; 45 per cent. in 31 cases of malformation of the ears, and 28.5 per cent. in 19 cases of convergent strabismus. The response was constantly negative in idiopathic dementia and in 83.9 per cent. of 31 epileptics.

48. **Low Physiologic Weight of Thin Dyspeptics.**—Leven calls attention to the fact that certain persons who suffer from dyspepsia may lose from two to thirty-five pounds in weight during treatment for their dyspepsia, and this brings them to their physiologic weight, as their dyspeptic disturbances vanish. He gives a number of examples in which the rapid loss of nearly thirty pounds during treatment for dyspepsia caused much alarm, as it seemed to indicate malignant disease, but the patients once freed from their dyspepsia remained constantly well. He thinks that excessive hydration of the organism is a feature of the dyspepsia; as this subsides the patients reach their physiologic weight. In one case, a physician who suffered from dyspepsia stopped drinking wine, and soon lost thirty pounds, but his dyspeptic disturbances vanished. He has been in perfect health during the eight years since this trifling modification of his diet, but he has never regained his thirty pounds, which had evidently been in excess of his physiolgic weight. There can be no question of the practical importance of this "favorable weight" in persons to whom we would be inclined to promise that their weight would increase when the digestive and intestinal functioning is restored to normal. An elderly dyspeptic growing thin, notwithstanding that he takes sufficient food, is not necessarily affected with cancer; neither is a young dyspeptic with rebellious intestinal trouble necessarily affected with tuberculous enteritis, even though both may lose flesh until they reach their physiologic weight level.

Revue de Gynécologie, Paris.

May, XII, No. 3, pp. 387-560.

49 *Acute and Chronic Bartholinitis. R. Dupuy and G. Rullier.
50 *Me[illegible] Fossa After Complicated [illegible] de la fosse iliaque après [illegible]. Chaput.
51 *Operative Treatment of Traumatisms of Biliary Passages. G. Cotte.
52 *Access to Wounds Involving Thorax and Abdomen. (Intervention dans les plaies thoraco-abdominales.) M. B. Nieto.
53 *Subphrenic Abscess. A. Catz and L. Kendirdjy.

49. **Inflammation of the Glands of Bartholin.**—Dupuy and Rullier say that in itself "Bartholinitis" is of insignificant moment, but that it opens the door to all infections, including gonorrhea and syphilis. On this account it demands thorough and prompt treatment. In the acute form, while awaiting formation of pus, they advise hot sitz baths and vaginal hot douches, protecting the regions in the intervals with a moist dressing covered with rubber or oiled silk, these measures being supplemented with a saline purge. The pus should be evacuated with or without cauterization. They prefer to incise for two inches and resect the wall of the abscess with curved scissors, seeking for diverticula, rinsing the wound with a bichlorid solution and tamponing with iodoform gauze, renewed daily after flushing the vagina. In the chronic cases the gland and duct should be removed; the various technics for this are described, with illustrations. If a hematoma forms, the wound should be opened, the clots removed, if necessary, the sutures being taken out and replaced. Local anesthesia is sufficient for all such work on the glands of Bartholin.

50. **To Partition Off the Iliac Fossa.**—Chaput makes a practice of shutting off the iliac fossa or space behind the colon in operating on the appendix when there are serious complications or infection, or extensive raw surfaces, especially when the walls of the small intestine or cecum are weakened or infected. It is difficult to drain the iliac and retrocolic spaces unless the iliac fossa is thus walled off by a partition formed of a flap resulting from the mobilization of the inner lip of the parietal peritoneum. This he sutures to the inner margin of the iliac fossa. A drain at the lowest point insures the

evacuation of secretions in the simplest way, as he shows in his illustrations of the technic.

51. **Traumatisms of Gall Bladder and Biliary Ducts.**—Cotte has been able to find in the literature 12 reports of stab wound in the abdomen, including one personally *observed*, all the patients treated by laparotomy—immediate in 9 with 6 recoveries, and secondary in 4 with 3 recoveries. He has found also 62 cases of rupture of the bile passages, the patients being treated by puncture in 22 cases with 14 recoveries; by immediate laparotomy in 6 with 4 recoveries, and by secondary laparotomy in 34 with 23 recoveries. Omitting all but those operated on in the last ten years, immediate laparotomy in 6 cases had a mortality of only 33 per cent., and secondary laparotomy of 26.9 per cent. in 26 cases. The gall bladder was *ruptured* in 14 cases with recovery of 8 patients, and the common bile duct in 17 with recovery of 10; the cystic duct was ruptured once with recovery; the hepatic in 7 with recovery of 2; the site of rupture in the *biliary ducts* was *not* mentioned in 23 other cases, with recovery of all but 3 of the patients. The mortality in 18 cases treated by drainage or cholecystostomy was 2, and it was 3 in 9 cases in which treatment was by cholecystectomy or cholecystenterostomy. *No prolonged attempt should be made to restore the continuity of the biliary ducts in case of rupture*, he asserts. Tamponing and draining are the urgent needs.

52. **Treatment of Wounds Involving the Chest and Abdomen.**—Nieto tabulates the details of seven cases of bullet or stab wounds of the viscera. The stomach alone was injured *in two cases and these were the only patients who failed to* recover. In the others the liver or spleen and kidney were involved.

53. **Subphrenic Abscess.**—*Catz and Kendirdjy's monograph* was awarded the Gerdy prize by the French surgical society last year. It shows in 20 illustrations a number of casts made of the space below the diaphragm, showing the relations between the viscera and the walls of the thorax and the various recesses. *The splenic recess is the most important from* the standpoint of suppuration. The various forms, locations and indications of subphrenic abscess are reviewed in detail.

Revue de Médecine, Paris.

August, XXVIII, No. 8, pp. 665-764

54 Size of the Heart in Chlorosis. (Volume du cœur chez les chlorotiques.) E. Barié.
55 Use of Greek in Medical Terms. (Emploi du grec dans le langage medical.) R. Pépin. Commenced in No. 7.
56 *Symptomatology of Nephritis. T. G. Janovsky.
57 *" " Nephritis of Tuberculous Origin. Devic
58 " " Arterial and Capillary Tension in Arteriosclerosis. C. Finck.
59 Physiologic Melanodermia of the Mucosæ. Sabareanu.

56. **Symptomatology of Nephritis.**—Janovsky says that the initial phase of acute nephritis is frequently accompanied by a marked psychic depression which is important for differentiation. He has observed it in many cases during the last ten years, and also in himself last year. Although comprehending and feeling as usual, free from headache, dizziness and tinnitus, complete apathy and indifference to the environment become noticeable. There are no special symptoms and yet one does not feel well. This condition is explained by the albuminuria, oliguria and edema which develop in the course of a day or so, with the other symptoms of acute nephritis. This prodromal psychic depression is evidently one manifestation of uremia. When it is observed in the course of any infectious disease it should warn of an impending organic affection in the kidneys. Another aid in early differentiation of acute nephritis is the peculiar elasticity of the subcutaneous cellular tissue. It is evident that in certain cases of nephritis the cellular layer is stretched to such an extent by the edema that it loses its elasticity permanently. The elasticity of the cellular layer also varies considerably in different individuals, so that the extent of the edema is no criterion of the severity of the nephritis. It may be very slight, but the accumulation of fluid occurs just the same, causing a sensation of heaviness of the legs. Long after an attack of nephritis with edema has subsided, at times the limbs temporarily feel unduly heavy, especially after a long walk, mountain climbing or a hearty meal. Neurasthenics are liable to have these same sensations, but in their case they coincide with periods of psychic depression, which helps to differentiate them. Dyspnea is another instructive symptom of acute nephritis, and it is liable to persist after the disappearance of all the others. For a year possibly, every physical effort or emotion may be accompanied by some dyspnea, even when the blood findings are entirely normal.

57. **Tuberculous Interstitial Nephritis.**—Devic and Rieux have encountered two cases in the course of three years in which the interstitial nephritis was evidently of tuberculous origin. The sclerous atrophic *nephritis developed* without fever and with little edema, but the emaciation was progressive and extreme. The urine was always limpid, and the amount was within low normal range or with a tendency to oliguria. There was but little albumin and no blood in the urine, but both *patients presented albuminuric retinitis.* The kidneys were small, light and granular, showing evidences of a lobular inflammatory process entailing obstruction of the glomerular artery. No giant cells or tuberculous follicles, no cheesy patches or tubercles could be discovered and bacteriologic examination was negative. One patient was a woman of 33, the first symptoms were vomiting after eating, lumbar pains, slight swelling of the ankles in the evening and dyspnea. Disturbances in vision were noted six months later, and the nephritis terminated fatally in a year. The *other patient was a woman of 34 and she noticed for about eighteen months that she was obliged to urinate unusually frequently* and that her ankles were swollen at night. [illegible] her vision became poor, she succumbed in six or eight mo The microscopic findings were alike *in each case* and no cause *for the nephritis could be discovered except old slight tuberculous* involvement of the apices.

Semaine Médicale, Paris.

September 9, XXVIII, No. 37, pp. 433-444

60 The New French Pharmacopeia and the Modifications It Introduces. (Le nouveau Codex français.) P. Yvon.

Archiv fur klinische Chirurgie, Berlin.

LXXXVII, No. 1, pp. 1-55. Last indexed Sept. 19, p. 1019

61 *Transplantation of the Thyroid Gland. (Schilddrusentransplantation.) T. Kocher.
62 *Congenital Backward Displacement of Large Intestine. (Congenitale Retroposition des Dickdarmes.) H. Strehl.
63 *Advantages of the Double Flap Method in Radical Operation for Umbilical Hernia. A. Brenner.
64 *Surgical Anatomy of Biliary Ducts. (Zur chirurgischen Anatomie der grossen Gallenwege.) E. Ruge.
65 Congenital Teratoid Sacral Sarcoma with Metastases. H. Hinterstoisser.
66 *Differentiation of Pathogenic and Saprophytic Staphylococci. J. Koch.
67 *Experimental Research on Prevention of Peritoneal Adhesions. (Verhutung von peritonealen Adhäsionen.) M. Busch and E. Bibergeil.
68 *Examination of Blood in Exophthalmic Goiter. Early Diagnosis and Theory of the Disease. (Blutuntersuchungen bei Morbus Basedowii.) T. Kocher.
69 *Hyperemic Treatment of Suppuration According to Bier. (Behandlung acuter und subacuter Eiterungen mit Stauungshyperamie nach Bier.) K. Heinrichsen.
70 *Congenital Sarcoma of the Femur Cured by Operative and Roentgen Ray Treatment, with Remarks on Congenital Malignant Tumors. C. Goebel.
71 Histology and Genesis of Congenital Diverticula of Male Urethra. (Congenitale Divertikel der mannlichen Harnrohre.) F. Suter.
72 Coxa Valga of Adolescents. A. Stieda.

61. **Transplantation of the Thyroid.**—Kocher has successfully transplanted the thyroid in dogs and in a few patients and he commends his method to others. He implants the thyroid in that part of a long bone which joins the epiphysis. At this point the tissue is very vascular and very resistant and a pocket can be made here in which the piece of thyroid can be embedded without suffering from pressure, while it can fill the space and be in direct contact with the smallest vessels. He makes the pocket and leaves in it a hollow silver ball, about 1 or 1.5 cm. in diameter, suturing afterward the flap of soft parts in place. The ball is left until a layer of granulations has formed, but not sufficiently to make a regular connective tissue capsule. The little ball is then removed with a hook catching in a loop provided for the purpose and the piece of thyroid tissue is implanted in its place. The out

come of the implantation is determined by the soundness of the part of the gland used for transplantation; the great difficulty is to obtain suitable material for the purpose. In his experiments, after implantation of a piece of thyroid no larger than a bean, the thyroids and parathyroids could be totally removed without disturbance in the health of the dog, while the animal rapidly succumbed as soon as the stretch of bone was resected in which the piece of gland had been implanted.

62. **Backward Displacement of the Large Intestine.**—Strehl reports a case of this anomaly and compares it with a few on record, urging the necessity for bearing the possibility of this condition in mind when operating for ileus.

63. **Double Flap Operation for Umbilical Hernia.**—Brenner gives an illustrated description of the technic and cases in which he applied his double flap method with an elliptical central field. He regards it as unconditionally reliable, the strength of the abdominal wall is enhanced and the shape improved.

64. **Surgical Anatomy of the Biliary Passages.**—This illustrated article issues from Körte's surgical service at Berlin, and discusses the possible variations in the anatomy of the bile and pancreatic ducts.

66. **Differentiation of Pathogenic and Saprophytic Staphylococci.**—Koch calls attention to the hemolytic properties of pathogenic staphylococci as an easy means of differentiating them. This hemolytic property is best shown in a rabbit blood-agar plate. The rabbit blood is drawn in a glass filled with glass pearls and shaken to defibrinate it. It is then centrifugated, the serum poured off, the corpuscles rinsed with salt solution and centrifugated again. The corpuscles are then mixed with fluid agar cooled to 55 C. (131 F.), the mixture well shaken together and poured out on plates. The pathogenic staphylococci develop a clear ring around each colony in the course of from 24 to 48 hours' growth.

67. **Prevention of Peritonitic Adhesions.**—Busch and Bibergeil report negative results from a long series of experiments aiming to prevent the formation of adhesions after operations involving the peritoneum. The experiments showed that very slight injury of the serosa, as by rubbing with a dry sponge or grasping it a little roughly, may induce the production of firm adhesions. Swabbing may induce adhesions difficult to sever except with the knife. Infection is not necessary for production of adhesions. Wet sponges are much less irritating for the serosa than dry gauze. In conclusion, they report three cases in which conditions at the laparotomy seemed to render future adhesions almost inevitable, but a second laparotomy or autopsy showed the entire absence of adhesions. None of these three patients had been treated with physostigmin.

68. **The Blood in Early Diagnosis of Exophthalmic Goiter.**—Kocher has now a record of 320 cases of exophthalmic goiter in which he has operated. The mortality was only 1.5 per cent. in the last series of 153 cases. He has examined the blood in 106 cases of exophthalmic goiter and has found that, while the number of red corpuscles is always normal or rather above normal, the white corpuscles range about 5,000 instead of the normal 7,000 or more. The reduction in the number of the white corpuscles seems to be exclusively at the expense of the neutrophile polynuclear leucocytes. Besides this reduction in the number of neutrophiles, the lymphocytes are relatively or absolutely materially increased. The blood picture is important for the early diagnosis and also for the prognosis of the disease, especially in connection with the Gräfe symptom and the phenomenon that if the hand of the patient is held on a level with his eyes, and is suddenly lifted a little higher, the upper lid springs up more quickly than the eyeball follows. For a moment the eye has the same aspect as with permanent retraction of the lid (Stellwag). Tenderness of the enlarged thyroid is another important early symptom. Persons of the "sanguine temperament" are most predisposed to the disease. Kocher discusses the various theories in respect to the etiology of exophthalmic goiter and the reasons why not only thyroidectomy but also operations on other organs are more dangerous in this disease. The task of rendering innocuous the consequences of acute infections devolves principally on the neutrophiles. They contain ferments which have antitoxic, peptic and oxidating properties, and they display intensive chemotactic action. The reduction in the number of neutrophiles thus partially explains the lack of tolerance for operative intervention in exophthalmic goiter. The operations cause ferment intoxications by effusions of blood and toxic influences from the general anesthesia, necrosis of tissue, etc. The blood picture takes a turn toward normal after effectual operative intervention.

69. **Hyperemic Treatment of Suppurative Processes.**—Heinrichsen reports 142 cases of carbuncles, phlegmons, mastitis, articular rheumatism, osteomyelitis, etc., treated at St. Petersburg by Bier's technic for arterial or venous hyperemia. The method, he says, requires constant medical oversight, but when conditions are favorable it gives good results in a shorter time than other measures.

70. **Congenital Sarcoma of the Femur.**—Goebel reports a case and reviews others from the literature which confirm the possibility of the congenital origin of pure sarcoma and carcinoma. He calls attention to the fact that these strictly congenital tumors occur at points where tumors generally develop in later life, and are then frequently referred to trauma. The intrauterine transmission of a tumor from the mother to the fetus has been observed only once. In his case there has been no recurrence during the fourteen months since combined operative and *x*-ray treatment. He thinks that the operative measures enhance the action of the Roentgen treatment by inducing impregnation of the region with serum and leucocytes, thus sensitizing it for more effectual action of the rays. His case further confirms the especially favorable reaction to Roentgen treatment of cellular, rapidly growing sarcomas, and also the action at a distance of brief exposures when the tissues are those of the young.

Beiträge zur klinischen Chirurgie, Tübingen.

August, LIX, No. 2, pp. 235-474.

73 Easily Improvised Apparatus for Extension, Transverse and Longitudinal. (Umsetzung der longitudinalen Extension in transversale Extension, ein leicht zu improvisierender wie auch als Dauerextension zu benutzender Streckverband.) A. Hofmann.
74 Tracheal Tube with Device to Protect the Physician Against Coughed Out Material. (Trachealkanüle mit Schutzröhre.) Id.
75 *Tumors in Round Ligament of the Uterus. H. Finsterer
76 *Operative Treatment of Inflammatory Affections of the Adnexa. (Operative Behandlung der entzündlichen Adnexerkrankungen.) W. Fromm.
77 *Gastric Cancer at the Heidelberg Clinic, 1898-1905. Magencarcinom.) P. Daneel.
78 *Roentgen Tumors. K. Lindenborn.
79 Experimental Studies on Human Kidney in Respect to Consequences of Nephrotomie. (Folgen der Nephrotomie.) W. Simon.
80 Malformation of the Radius. (Radiusmissbildungen.) M. Goerlich.
81 Congenital Ankylosis of Fingers with Brachydactylia. Id.
82 *Stovain Spinal Anesthesia. (1,000 Lumbalanästhesien mit Stovain.) O. Münchmeyer.

75. **Tumors in the Round Ligament.**—Finsterer reports the case of a woman of 22 with a round, solid tumor in the right round ligament. There are about 76 such cases on record, including 4 sarcomas. They may simulate hernia, but the discovery of special painfulness during the menses aids in differentiation. In all but four cases the tumor was benign, but the danger of sarcomatous degeneration and the pains during menstruation justify its prompt removal.

76. **Operative Treatment of Inflamed Adnexa.**—Fromm has examined recently the women operated on at Nuremberg, 1900-1905, for inflammation of the adnexa. The results in the 17 cases were so favorable that they confirm the advantages of operative treatment in certain cases, especially the severer ones. Almost all the women have had their earning capacity fully restored: operative measures are particularly indicated for working women.

77. **Gastric Cancer.**—Daneel reports the outcome of gastric cancer in 400 cases at the Heidelberg surgical clinic in the last eight years. This material is studied from a number of

standpoints, and the details are tabulated. One patient succumbed to a recurrence more than nine years after resection of the stomach. Two others of the 11 still living of the 73 treated by resection show evidences of recurrence. In 313 patients hydrochloric acid was lacking in 82 per cent. About 10.3 per cent. had an inherited taint. In 41 per cent. there was a history of a long chronic stomach affection, but a chronic infection was discovered only in 12 per cent. There was pronounced motor insufficiency in 135, moderate in 124, and normal motor functioning in 92. In 21 cases there was no history of vomiting; the tumor evidently had impaired the contracting power of the stomach and thus prevented vomiting. In 17 per cent. of all the cases no signs of a tumor could be palpated. As free hydrochloric acid was evident in these cases, the diagnosis of cancer seemed improbable. The glands of the lesser curvature were involved in 36 per cent. of 276 cases. In 7 cases in which the cancer was deemed inoperable, or operation was refused, the patients are still alive, 2 after seven years, 1 each after four and six years, and 3 after two years.

78. **Roentgen Tumors.**—Lindenborn reports two cases of Roentgen carcinoma developing under prolonged Roentgen treatment of lupus of ear or face. In one it ran a very malignant course, the patient, a man of 26, was given 79 exposures between February, 1904, and April, 1907. The ulceration developed very rapidly; it was cut out in five months, but recurrence in two weeks required renewed extirpation, and the cancer continued to proliferate, some days increasing by 1 cm. in diameter. The patient died in less than a year after the first symptoms. The other patient was a man of 59; after 120 exposures in the course of three years a carcinoma developed which was excised, and a year and a half later the patient is entirely well, the skin being healthy with no traces of either lupus or carcinoma. Lindenborn ascribes the Roentgen cancer to injuries of the tissues which it is impossible to avoid in long-continued Roentgen treatment. The most threatening Roentgen injury—the destruction of the smaller arteries—may take place without the slightest signs on the surface. He warns against Roentgen-ray treatment of extensive lupus when there are deep lesions and especially when the lupus recurs after apparent healing, thus rendering probable the existence of cicatricial changes in the vessels.

82. **Stovain Spinal Anesthesia.**—Münchmeyer analyzes 1,189 cases in which spinal anesthesia was used in Müller's clinic at Rostock. He states that the method is not adapted for general practice, but in the hospital it has proved invaluable, especially in cases in which general anesthesia is contraindicated. He states, however, that only 70 per cent. of the patients were entirely free from by-effects or after-effects, and one man of 49, being operated on for empyema of the pleura, died on the operating table from paralysis of the respiratory muscles as the operation was commenced. As autopsy was refused, it is not known whether the spinal anesthesia or aspiration of pus was responsible for the fatality. Transient paralysis was observed in seven cases, and in one the joints were painful and swollen for two months, followed by traumatic hysteria which soon yielded to treatment.

Berliner klinische Wochenschrift.

September 7, XLV, No. 36, pp. 1629-1668.

83 Left Lobe of Liver Entirely Torn Off. Recovery. (Eine in Spontanheilung begriffene totale Abreissung des linken *Leberlappens.*) H. Chiari.
84 Febrile Tropical Diseases. (Fieberhafte Tropenkrankheiten.) P. Mühlens.
85 *The Neutrophile Blood Picture in Incipient Acute Appendicitis. (Das neutrophile Blutbild im Frühstadium der akuten Appendicitis.) R. Kothe.
86 *Chemical and Histologic Study of Blood in Acromegaly. (Blut bei Akromegalie.) G. Franchini.
87 Chronic Acholuric Icterus with Splenomegaly. S. Möller.
88 Bechterew's Flexion Toe Reflex. (Beugereflex der Zehen.) M. P. Nikitin.
89 Treatment of Gout. (Behandlung der Gicht.) Falkenstein.

85. **The Neutrophile Blood Picture in Incipient Appendicitis.**—Kothe gives a table of 42 cases of simple acute appendicitis, in which the patients recovered under expectant treatment. The number of leucocytes ranged from 8.000 to 22,000, averaging 13,000, while the proportion of mononuclear neutrophiles ranged from 8 to 25 per cent., the average 16 per cent. In another table he gives the details of 44 more serious cases, one fatal, the others all terminating in recovery under operative measures. In this group of 44 the leucocytes ranged from 8,000 to 50,000, but averaged 21,000, while the neutrophiles were never below 23 per cent. and in some were over 50 and up to 65 per cent., the average, 39 per cent. This predominance of the mononuclear neutrophiles indicates the severity of the infection. He emphasizes the importance of repeated determination of the neutrophile percentage, especially for curves after operations. These curves parallel the progress or retrogression of the inflammation, and reveal the onset of secondary abscesses. If the blood picture does not tend to become normal after operation, some complication certainly exists. If at the same time the total leucocyte count grows lower, this must be accepted as a bad omen.

86. **The Blood in Acromegaly.**—Franchini describes the technic with which he has been studying the blood in four cases of acromegaly. The findings show that the blood is generally altered, with eosinophilia and changes in the polynuclears. There are also changes in the composition of the blood, a certain degree of lipemia and increased proportions of mineral elements.

Deutsche medizinische Wochenschrift, Berlin.

September 3, XXXIV, No. 36, pp. 1537-1576.

90 *Evils in the Production of Medicinal Preparations. (Missstände in der Heilmittelproduktion, unter besonderer Berücksichtigung der Pyrenolfrage.) E. Harnack.
91 *Pyocyanase in Diphtheria, Scarlet Fever and Tonsillitis. Saar.
92 Action of Glutaric Acid on Phloridzin Diabetes. (Wirkung der Glutarsäure auf den Phloridzindiabetes.) J. Baer and *L. Blum.*
93 *Rapid and Precise Determination of the Terminal Reaction in Titration of Sugar with Fehling's Solution. W. Menyhert.
94 *Clinical Research on Early Rachitis. (Frührachitis.) E. Wieland.
95 Anatomic Action of Roentgen Rays on the Testicles. (Die anatomischen Wirkungen der Röntgenstrahlen auf den Hoden.) G. Herxheimer and K. F. Hoffmann.
96 *Are There Objective Reasons for Allowing Patients to Get Up Early After Interval Appendicectomy? (Gibt es objektive Gründe, die uns veranlassen können, Blinddarmkranke nach Operationen im fieberfreien Intervall frühzeitig aufstehen zu lassen?) E. Hönck.
97 *The Westphal Sign in the "Healthy." (Das Westphalsche Zeichen bei "Gesunden.") Mainzer.
98 Treatment of Depression of the Skull in New-Born Infants. (Zur Behandlung der Schädelimpression der Neugeborenen.) Scheffzek.
99 *Automatic Actual Cautery. (Automatischer Paquelin.)* M. Neumann.

90. **The Evils in the Production of Medicinal Preparations.**—In this comprehensive article Harnack describes the ways in which certain manufacturing chemists seek to foist "new" medicinal preparations on the market and blind the eyes of physicians to the fact that the "new" remedies are merely mixtures of old and long-tried drugs with whose action every one is familiar. In order to conceal this, he says, the manufacturers add to the formula some unessential ingredient, which they know none of the drug firms carries in stock, or they claim some new synthetic ester as the source of the peculiar efficacy of the new preparation. None but an expert chemist is able to see through this veil of mystery that the "new" remedy is merely a mixture of familiar drugs and that its therapeutic action is proportional to that of its ingredients. He cites pyrenol as a typical example of these "evil outgrowths" on the noble tree of legitimate production of medicinal preparations. Pyrenol is claimed to be a "thymol ester of benzoic acid" of mysterious *efficacy against neuralgia*, etc., but verified analyses show that it is a mixture of nearly equal parts of sodium salicylate and benzoate plus 0.3 per cent. thymol and 1 per cent. free benzoic acid. The efficacy of the salicylates, he exclaims, in their proper field does not need to be demonstrated anew at this late date! He cites also another recently launched preparation, eglatol, which claims to be "chloral freed from toxic properties." Two highly laudatory articles on it by prominent men have already appeared, in the *Deutsche Aerzte Zeitung* and *Medizinische Klinik.* This has since been proved to be a mere mixture of chloral, antipyrin, caffein and a urethan—a mixture of a hypnotic, a stimulant and an analeptic! Harnack has no-

ticed that the first impressions of a new remedy are generally inclined to be favorable. If physicians would wait for maturer judgment before publishing their reports, he says, they might be less "favorable," while the "new" remedies would not gain such a vogue so early. In conclusion he remarks that no one likes to attack a hornets' nest, but if he starts the task he must go energetically to work. The private scientist who publishes his analyses of these preparations makes enemies and is liable to be sued for damages, which is about all the harvest of gratitude he reaps for his tedious work. Harnack would like to have the protection of a trademark name restricted to those preparations which are proved to be made by a patentable process. (An editorial in the same issue of the *Wochenschrift* states that Harnack, professor of pharmacology at Halle, was asked to write up this subject, the "Evils in the Production of Medicinal Preparations," as he is considered one of the most competent experts in pharmacology, etc., in the country. The hope is expressed that his lucid and impressive article will arouse the authorities to the necessity for some central official institution for chemical and toxicologic analyses of the new remedies offered. Also that the article will make an impression on physicians, as the editorial adds, "the almost unappeasable craving of not a few colleagues to try these new remedies without careful scrutiny of the literature sent them by the manufacturer, and the lamentable blunder of so many of them in praising in medical journals the new remedies without adequate critical judgment, are important aids in the promotion of the fake medicinal-preparation business.")

91. **Pyocyanase in Diphtheria, Scarlet Fever and Tonsillitis.**—Saar reports experiences with pyocyanase in forty-two cases of these infections, mostly in young people, at the Berlin Charité. The results confirmed the efficacy of the pyocyanase for local treatment of affections caused by streptococci, staphylococci and diphtheria bacilli. As the pyocyanase has no antitoxic properties, serum treatment is indispensable with it in the young, but might perhaps be dispensed with for adults.

93. **Improved Technic for Titration of Sugar.**—Menyhert describes a simplified technic with which it is possible to determine the onset of the terminal reaction in titration of sugar with Fehling's solution, without the necessity for filtering, cooling or waiting for precipitation. He prepares a reagent paper by impregnating a filtering paper with acetic acid and a solution of potassium ferrocyanid; when dry it is ready for use. A drop of the hot Fehling's solution transferred to the reagent paper becomes encircled by a ring—the ferrocyanid reaction—in the form of a dark violet circle. This violet ring grows lighter and lighter as the titration progresses, until finally it vanishes altogether. The reaction as a drop is transferred to the paper becomes progressively less until there is no trace of a colored ring when the titration reaches the terminal phase. He gives an illustration of the various aspects of the reaction.

94. **Early Rachitis.**—Wieland's article was summarized in The Journal, August 15, page 632.

96. **Early Getting Up After Appendicitis Operations.**—Hönck noticed that the temperature in the rectum was liable to remain high after appendicectomy unless the patients were allowed to get up. He ascribes the persisting temperature to accumulation of blood in the pelvis, and is convinced that judicious getting up and moving about will relieve this congestion and thus avert danger of thrombosis and embolism. He has been impressed with the exceptionally rapid recovery of eight patients whom he allowed to get up early after interval operations for chronic appendicitis.

97. **The Westphal Sign in the Healthy.**—Mainzer reports two cases in which the Westphal sign was pronounced in two apparently healthy individuals. It was learned, however, that one of the parents in each case had been syphilitic.

Fortschritte der Medizin, Leipsic.

August 20, XXVI, No. 25, pp. 705-736.

100 Inherited or Acquired Tendency to Disease. (Krankheitsdisposition.) Esch.

Medizinische Klinik, Berlin.

September 6, IV, No. 36, pp. 1367-1402.

101 Poisoning by Industrial Phospho-oxychlorid Gas. (Vergiftung durch Phosphoroxychlorid.) T. Rumpf.
102 *Pathologic Drunkenness. (Der pathologische Rausch.) R. Kutner.
103 *Migration of Foreign Bodies. (Wanderung von Fremdkörpern.) G. Muskat.
104 Intestinal or Bladder Autoinfection with the Colon Bacillus. Three Cases. (Koli-Autoinfektion.) G. Bluth.
105 Acute Polymyositis. Silberborth.
106 Negative Experiences with Marmorek's Antituberculosis Serum. E. Damanski and G. G. Wilenko.
107 Value of the Conradi Bile-Blood Culture Medium for Diagnosis of Typhoid. (Wert der Conradischen Gallenblutkultur in der Typhusdiagnostik.) Buchholz.

102. **Pathologic Reaction to Alcohol.**—Kutner describes the various features of the pathologic reaction to alcohol liable to be observed in persons with a congenital or acquired psychopathic taint, especially when some transient injurious influence is superposed on the morbid predisposition. A very small amount of liquor may prove sufficient to bring on this pathologic drunkenness, with impulses to sudden fury. The frequent entire absence of the usual staggering gait and thick speech is liable to mask the diagnosis. The reflexes behave differently from ordinary drunkenness, and the drunkenness generally comes on suddenly, sometimes being preceded by a premonitory aura-like phase. If the patient can not be taken at once to a hospital or asylum, which is the best plan, at least he should be watched over until he falls asleep and as he sleeps, and the family should be warned of the dangers of sudden rousing from sleep, so that nothing should be allowed to disturb him.

103. **Migration of Foreign Bodies.**—Muskat describes considerable experimental research on mice and rabbits which shows that needles or other foreign bodies which lie free and do not collide with bones and which enter in the direction of the fibers of the muscle, work their way along and consequently should be removed. Under other conditions, if they cause no symptoms, they can safely be left undisturbed.

Münchener medizinische Wochenschrift.

September 1, LV, No. 35, pp. 1817-1864.

108 Experimental Anemia. P. Morawitz and J. Pratt.
109 *The Absolute Plethysmogramm. O. Müller.
110 Mishaps from Pessaries. (Zur Einschränkung der Pessartherapie.) F. Cohn.
111 *Importance of Persisting Thymus in Exophthalmic Goiter. (Neuer Beitrag zur Basedowthymus.) Capelle.
112 *Blood Findings in Periodical Acetonemia in Children Between Ages of 3 and 6. (Blutefunde bei periodischer Azetonämie grösserer Kinder.) Hecker.
113 Origin and Treatment of Internal Intestinal Hernia. (Entstehungsgeschichte und Behandlung der Eingeweidebrüche.) W. Koch.
114 *[illegible] Syphilis. (Die Kromayersche [illegible] bei Syphilis.) P. Bendig.
115 *[illegible] (Ein Dysenteriebazillenträger.) E. Küster.
116 *Indirect Fractures of Metatarsus. (Indirekte Mittelfussbrüche.) A. Nast-Kolb.
117 Abortive Pneumonia. Simon.

109. **The Absolute Plethysmogram.**—Müller thinks that he has solved the problem of determining the absolute amount of blood in a given limb at a given moment. He accomplishes this by placing the arm of the seated person in a glass cylinder, about 75 cm. high by 12 cm. in diameter. A projecting handle on the cylinder fits over the shoulder and holds the arm firm. Mercury heated to 34 C. (93 F.) is then allowed to flow through a tube opening in the bottom of the cylinder until it is full nearly to the top. Before the arm is placed in the cylinder a Riva-Rocci cuff is applied just above the elbow, but not inflated until the jar is filled with mercury. As it enters gradually from below it forces the blood out of the arm. It is allowed to act on the arm for one minute, and then, by lowering the recipient and wide tube, the mercury rapidly flows out of the jar. Water at the same temperature is then allowed to fill the jar to the elbow; the constricting band is released, and the amount of water displaced by the returning blood is determined, as also the size of the blood-filled arm. By this means it is possible to estimate the amount of blood in the arm and thus obtain a standard for appreciation of the plethysmographic curves. He answers the objections that might be raised against this

method, and shows the important information that it is capable of rendering.

111. **Relations Between the Thymus and Exophthalmic Goiter.**—Capelle has encountered an additional case of "thymus death" in exophthalmic goiter under operative treatment. This is the fourth in his experience, and as mentioned in The Journal, July 25, page 356, he has found records of 60 cases of the kind in which autopsy revealed that the thymus was as large in proportion as at the height of its development in infants. His last patient was a girl of 16, healthy until symptoms of exophthalmic goiter developed sixteen months before operative treatment was attempted after failure of persevering internal treatment. A soft parenchymatous thyroid was evidently responsible for the severe symptoms. The right lobe was resected, with a wedge excision in the isthmus, under ether. The operation was uneventful and the patient was doing well when twelve hours after operation fatal heart collapse ensued and autopsy showed the thymus unduly large. Before operating, an area of dulness above the manubrium had been noted, superposed on the heart dulness, but not surpassing the limits of the manubrium. He says that this should have warned against operative interference. Before deciding on operating, every diagnostic means should be exhausted to determine whether or not the thymus is enlarged. It is more than probable in case the tonsils are enlarged and pale red, and there is dulness over the upper sternum, especially when a tumor can be felt in the mediastinum during inspiration, and the Roentgen rays cast the shadow as described by Hotz, or if there are signs of follicular hyperplasia, as in the tonsils, spleen or at the base of the tongue.

112. **Acetonemia in Children.**—Hecker describes three cases in children between 3 and 7. During and just before the attacks of periodical acetonemia he detected a pathologic, relative lymphocytosis. The blood picture at all times corresponded to the condition of the blood in earliest infancy, and the acetonemia seems to be the result of a constitutional anomaly in the sense of arrested development, especially in the functions of fat metabolism. During the attack the condition becomes acutely aggravated. It is evident that the white blood corpuscles have important relations to purely chemical processes in the organism—in this case to the formation of the acetone bodies.

114. **Kromayer's Inhalation Mercurial Treatment of Syphilis.**—Bendig has applied the Kromayer method in twenty cases and is delighted with the outcome. He tabulates the metabolic findings under treatment, the results encouraging him to prophesy that this method is destined to compete with the best of others. Its simplicity and convenience commend it for general adoption. The principle is the inhalation of the most finely divided mercury, with which a double layer of mull is impregnated, taking up about 8 gm. (120 grains). The mull is fastened to a small mask worn at night, held in place by a band at each side passing over the ears, crossing at the back and tied over the forehead. This amount of mercury is sufficient for ten days, reversing the mull to get the benefit of the entire surface. The time required is about the same as for a course of inunctions, the ideal being to continue it until the serum test gives negative findings. The absence of gastrointestinal disturbances and of pain at the point of injection are among the advantages of the method. He adds that the patient should be compelled to return for a new supply of mull each time; this will insure medical oversight of the case. Kromayer's announcement of the new method was published in the *Berliner klinische Wochenschrift*, February 24, 1908.

115. **Dysentery Bacilli Carrier.**—Küster reports what he thinks is the first case of verified elimination for years of specific dysentery bacilli, the individual being apparently healthy since the primal attack of dysentery years before.

116. **Indirect Fractures of the Metatarsus.**—Nast-Kolb reports two cases of indirect fracture of a metatarsal bone. Both patients were young girls from the country entering domestic service for the first time and not accustomed to city work and hard pavements. He is convinced that these metatarsal fractures are much more common than generally believed. They are probably the cause of the complaints of young women training to be nurses. The absence of trauma and the vague local symptoms mask the fracture, but its discovery is important for treatment, and the Roentgen rays reveal it in nearly every case. It heals under immobilization with adhesive plaster bandages. The importance of these indirect metatarsal fractures among soldiers is well recognized, but in civilian life it has not been appreciated.

Wiener klinische Wochenschrift.

September 3, XXI, No. 36, pp. 1259-1284.

118 Colles' Law and Profeta's Law in Light of Modern Serum Research. (Das Collessche und Profetasche Gesetz im Lichte der modernen Serumforschung.) J. Bauer.

119 Bronchial Asthma and Reduction in Size of Heart. (Asthma bronchiale und Verkleinerung des Herzens.) A. Götzl and R. Kienböck.

120 Oatmeal in Treatment of Diabetes. (Zur Frage der Haferkur.) N. von Westenrijk.

121 Are the Bactericidal Elements of Pyocyanase Lipoids? R. Emmerich and O. Löw.

122 Poehl's Principles and Preparations. (Die Lehre von Alexander Poehl und die mit seinen Präparaten erzielten Erfolge in der medizinischen Klinik im Jahre, 1906-7.) S. Szurek.

Gazzetta degli Ospedali e delle Cliniche, Milan.

August 30, XXIX, No. 104, pp. 1097-1112.

123 Ergographic Study of Tremor. (Osservazioni sui tremori.) L. Panichi.

124 Segregation of Urine in Women with Luys' Segregator. (Valore del separatore di Luys applicato nella donna.) G. Coen and P. Lilla.

125 Changes in the Blood in Gonorrhea. (Sangue di blenorragici.) G. Sarra.

126 Agglutination of Staphylococci. (Agglutinazione degli stafilococchi.) L. Trincas.

Policlinico, Rome.

September 6, XV, Practical Section, No. 36, pp. 1125-1156.

127 Ruggi's Method of Treating Femoral Hernia. (Valore del metodo "Ruggi" nella cura radicale dell'ernia crurale.) G. Marchetti.

128 *Mercury in Tabes. (Cura mercuriale nella tabe.) F. Felici.

128. **Mercury in Treatment of Tabes.**—This communication from Baccelli's clinic at Rome describes three cases of tabes in which benefit was obtained under mercurial inunctions supplemented by potassium iodid internally and electric applications to the paralyzed members. One patient was a woman of 50 with complete paraplegia and other signs of tabes. Under the prompt therapeutic measures the paraplegia entirely retrogressed and there has been no recurrence during the three years since. In the other cases the treatment caused retrogression of neuralgic and lancinating pains or gastric crises.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Laboratory Guide for Histology. By Irving Hardesty, A.B., Ph.D., Associate Professor of Anatomy in the University of California; with a chapter on laboratory drawing by Adelebert Watts Lee, M.D., Assistant in Anatomy in the University of California. Cloth. Pp. 193, with 30 illustrations, 2 in color. Price, $1.50. Philadelphia: P. Blakiston's Son & Co., 1908.

Spectacles and Eyeglasses, Their Forms, Mounting and Proper Adjustment. By R. J. Phillips, M.D., Late Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine. Cloth. Pp. 91, with illustrations. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1908.

A Manual of Bacteriology. By Herbert U. Williams, M.D., Professor of Pathology and Bacteriology, Medical Department, University of Buffalo. Revised by B. Meade Bolton, M.D., Washington, D. C. Cloth. Pp. 466, 113 illustrations. Price, $2.00. Philadelphia: P. Blakiston's Son & Co., 1909.

Handbuch der Biochemie des Menschen und der Tiere. Edited by Prof. Dr. Phil. et Med. Carl Oppenheimer, in Berlin. Paper. Third, fourth and fifth parts. Pp. 160, each, with illustrations. Price, $1.00, each. Jena: Gustav Fischer.

Sonnenblicke vom Lateinischen Amerika, Eine Kreuzfahrt nach Westindien, Columbien, Panama and Costa Rica. By Carl Beck (New York). Cloth. Pp. 231. Illustrated. Berlin: Leonhard Simion Nf., 1908.

Ninth Annual Report of the Noble Hospital, for the Year 1907. Westfield, Mass. Paper. Pp. 30.

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Original Articles

GAS CYSTS OF THE INTESTINE.*

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BALTIMORE.

THE AUTHOR'S CASE.

Patient.—The subject of this paper is a man, aged 60 years, a resident of Illinois, who was referred to me by his son, a physician. He entered the Union Protestant Infirmary on Nov. 28, 1907, with a diagnosis of cancer of the stomach.

History.—His history in brief was that he had always been a man who had enjoyed remarkable health up to about eighteen months ago when he began to have symptoms of indigestion. At that time he weighed something over three hundred pounds, had an excellent appetite and had always been a very hearty eater. During his illness, he had lost almost one-half of his body weight, and at the time he entered the hospital, he was emaciated and cachectic to a marked degree.

Examination.—This was negative except as referred to the abdomen. Here a mass in the region of the pylorus could be both seen and felt. It was hard and nodular. The stomach was enormously dilated, and contained the remains of food eaten several days previously. Examination of the stomach contents was typical of carcinoma, which his whole appearance strongly suggested. It was decided to perform a gastroenterostomy in the hope of giving him temporary relief. His very weak condition rendered doubtful the outcome of any operative procedure. A very unfavorable prognosis was therefore given.

Operation.—Dec. 4, 1907, under ether anesthesia, an incision was made through the right rectus muscle. A carcinomatous mass the size of an orange was found, involving the whole pyloric one-third of the stomach. Nodules of various sizes were found in the liver. The retroperitoneal lymph glands were enlarged and invaded by the carcinomatous process. A no-loop posterior gastroenterostomy was performed. Before closing the abdomen, the hand was passed into the pelvis, as a matter of routine. A curious, soft multilocular cystic tumor, 15 cm. (6 in.) long by 8 cm. (3¼ in.) wide at its widest point, was found attached to the free border of a loop of ileum about one foot above the ileocecal valve. No similar growths were observed elsewhere in the abdomen. From the peculiar cystic appearance of the mass, it was for a moment thought to be a beginning echinococcus cyst. On further examination, however, it was discovered that the cysts contained only gas. The cysts, of which there were a great many, were massed together like soap bubbles, in a basin of suds, being irregular in shape on account of the pressure of the neighboring cysts. The cysts themselves varied in size from microscopic, to as large as grapes. Each cyst seemed to have a thin, fibrous tissue wall of its own. Here and there hemorrhages could be seen in the fibrous tissue stroma. When the cyst walls were punctured, the air escaped with an audible hiss or pop, showing that it was under considerable pressure. The cystic growth was most prominent on the free border of the intestine, but completely surrounded the affected loop, extending here and there in scattered groups on both sides of the mesentery, for a distance of from 2 to 3 cm. (¾ to 1¼ in.) from its intestinal attachment. Some of the cysts were pedunculated. A single cyst or group of them might be attached by a single pedicle. The whole tumor mass was covered here and there by a thin, web-like fibrous structure which suggested an old fibrinous peritoneal exudate that had become partially organized. There were no adhesions between the tumor and the surrounding structures. Portions of the mass were removed for further examination.

The condition of the patient was so critical that excision of the affected loop of the intestine was not to be considered, indeed, it did not appear to be indicated. I cannot report, therefore, as to the mucous surface of the intestine, but there was no evidence that the lumen of the bowel had been at all encroached on. The patient rallied unexpectedly well from the operation. He made an uneventful recovery, and at the time he left the hospital, was gaining weight at the rate of a pound a day. Up to the last report he has continued in excellent health.

On again going carefully over the clinical history of the patient after the operation, there were no symptoms which could in any way be referred to this peculiar cystic growth of the intestine. His history had from the beginning suggested cancer of the pylorus, and the findings at the operation fully corroborated this diagnosis. The discovery of the gaseous tumor was purely accidental. The tumor itself, however, presents so many interesting features that it seems worthy of being made the subject of a full report.

HISTORICAL CONSIDERATIONS.

On looking up the record of similar growths, I have been unable to find any mention whatsoever of this tumor or anything that suggests it in the medical literature of this country. I believe, then, that this tumor is a unique specimen so far as America is concerned.

The first mention of the condition that I can find anywhere was in 1876, when Bang[1] reported an undoubted case. Following this report, Dr. B. M. Bernheim, whom I have to thank for valuable assistance in the preparation of this paper, has been able to collect from the literature reports of seventeen additional cases, making nineteen in all, up to and including my own case.

The chief interest in this peculiar growth lies in its etiology, and in the presence of circumscribed collections of gas in the tissues of the intestinal walls. It must be said at the outset that at the present time the specific etiologic factor or factors concerned in its production remain for the present undetermined. Light, however, may come from the direction of comparative pathology through the study of the same or a very similar growth which has been observed with considerable frequency in pigs and sheep, notably the former. Mayer[2] of Bonn was probably the first to call attention to the occurrence of cysts containing air in the intestine of pigs. Since then it has been repeatedly observed in the intestine of apparently otherwise healthy pigs, and among veterinarians has been known as "emphysema bullosum."

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908. Because of lack of space, the reports of cases are here abbreviated. The complete article appears in the Transactions of the Section and in the author's reprints.

[1] Luftholdige Kyster i. vaggen af aleum og. i. nydannet Bindevav pa sammes serosa. Nord. med. Ark., 1876, viii, No. 18.

In medical literature it has been described under a number of different names, of which "Pneumatosis Cystoides Intestinorum Hominis" (Mayer) or "Gas Cysts of the Intestines" are perhaps the most satisfactory.

It is perhaps a matter of no little interest that this condition was described independently by John Hunter, and two specimens of the tumor taken by him from the intestine of the pig are preserved in the Museum of the Royal College of Surgeons. One of them is thus described: "A portion of the rectum of the hog of which the peritoneal coat is in many places, especially by the side of the mesorectum, covered by groups of thin-walled transparent membranous cysts, attached by pedicles, or having broader bases and containing air."

This specimen was referred to Hunter by Jenner and is described by him in the following words which give Hunter's ideas as to a possible explanation of the condition:

> That air is either formed from the blood or let loose by some action of the vessels both naturally and from disease, is an undeniable fact. We find air formed in fishes to answer natural purposes, for in those whose air bladders do not communicate externally (many of which there are) we must suppose it to have formed there. We also find it in animals after death, and I have a piece of the intestine of the hog which has a number of air bladders in it. Mr. Cavendish was so kind as to examine this air and he found it contained a little fixed air and the remainder not at all inflammable, and almost completely phlogisticated.

A specimen, as Mair[3] well remarks, with the history of which the names of Jenner, Cavendish and Hunter are associated is certainly one of no common interest.

Ostertag, Jaeger,[4] Dupraz[5] and others have described fully these air-containing cysts of the intestine as they are observed in the pig. Dupraz believes them to be a proliferating lymphangitis caused by bacteria, which, by their ability to produce gas, cause the formation of gas cysts in the course of the lymphatics. This organism he called *Coccus liquefaciens*, but the only proof he brings forward to substantiate his theory is that following subcutaneous injection of this organism into dogs and guinea-pigs, a resulting gas formation was observed. Numerous ecchymoses and erosions were produced in the mucosa of the intestine, which he considered as portals of entry for the organism. His experiments, however, were neither exact enough nor sufficiently numerous to be convincing or conclusive. Probably the best article dealing with the occurrence of this affection in animals is that by Jaeger which appeared in 1906. He discusses two main theories as to the etiology of the affection: 1. That the gas-containing cysts are caused by bacteria, and 2. that they are caused by purely mechanical and physical conditions. After reviewing Dupraz's work, he discusses the mechanical view as to the origin of these cysts. This is based on the claim that the gas in the cysts is composed mainly of oxygen, and that as yet no micro-organism has been found which produces oxygen, hence there can be no bacterial origin for the cysts. The advocates of this theory have thought that through the stagnation of the intestinal contents and the consequent gas formation, a number of slight abrasions have occurred in the mucosa through which the gas escaped into the tissues. Jaeger insists that the reason the gas in the cysts has always been found to be about the same as atmospheric air is that so much time has always elapsed between the time of the removal of the cysts from the body and that of the collecting and analysing the gaseous contents, that a two-way interchange has taken place between the external air and the cysts, through the cyst walls. The diffusibility of gases through animal tissues has long been known. Jaeger proved it to be true for the intestine of pigs; even such a short time as one hour making a considerable difference in the gaseous content of a loop of intestine filled with CO_2, O, H and N left suspended in the air. In three hours the H and CO_2 had completely escaped, and the portions of O and N were about the same as in the atmospheric air.

In four cases of gas cysts of the intestine of the pig studied by Jaeger, he found a bacillus of the colon family which produced gas in gelatine culture, which had no odor and was composed of 15 per cent. CO_2, 5.6 per cent. O, 77.3 per cent. H and 6.1 per cent. N. Jaeger followed up his observation by a number of injections of this bacillus into the intestinal walls of animals. Death followed in twenty-four hours by general infection, when there were found in all the layers of the gut a number of very small gas cysts. He called his organism *Bacterium coli lymphaticum aërogenes*. Jaeger's work, while most interesting and suggestive, is rather disappointing in that his animals died so promptly that the typical pathologic picture seen by other observers was not obtained in his experiments. It is only fair to add, however, that he explains this by saying that the disease in his experimental cases ran too acute a course to develop the picture of chronic pathologic changes noted in the other instances, namely, the giant cell formation, fibrous tissue, etc.

While this condition, as has been before mentioned, is observed with more or less frequency in the intestine of apparently otherwise healthy pigs, and is of no special economic value, still it is a matter of enough importance to have attracted the attention of the Bureau of Animal Industry of the Department of Agriculture in Washington. Dr. J. R. Mohler, chief of the pathologic division of this bureau, in a personal communication, writes me the following:

> The study of this quite common affection of hogs was taken up by the pathologic division during the past year in order to establish the cause of this peculiar condition, and if possible to confirm the work of Jaeger. While the affection is not of great importance from an economic standpoint, its occurrence in apparently healthy hogs, and the extensive cystic formations in the intestinal walls and on the mesentery, make it of great interest from a meat inspection standpoint. Numerous fresh specimens were received from several abattoirs, from which various culture media were inoculated. The pathologic histology was also carefully studied. A micro-organism belonging to the colon group was obtained from every case examined, and was found to be the etiologic factor of this process. The affection invariably restricts itself to the small intestine, and takes its origin in the mucous membranes. The cysts are always found in the course of the lymphatics, and there is a close association between these cysts and the lymph vessels. Histologically, the lymphatics principally

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[2] Jour. d. prakt. Heilk., 1825.

[3] Gas-containing Cysts or Air-bladder Tumors, Med. Chronicle, March, 1908, 422.

[4] Archiv. f. wissensch. u. prakt Tierheilk., 1906, xxxii, 4, 5

[5] Arch. de méd. expér. et d'anat. path., ix; Revue méd. de la Suisse Romande; congr. internat. de gynec. à Genève, 1897.

manifest marked changes, and the picture is very striking. Masses of giant cells are found frequently obstructing the entire lymph vessel, and again they may form a uniform lining of the gas cysts. Their presence excludes the theory that the affection is of an acute character, and on the contrary, is indicative of a chronic condition. The experiments are still in progress and attempts to transmit the condition by the introduction of the isolated organism in various ways have not yet been concluded.

Although the experimental work just referred to has to do entirely with the appearance of gas-containing cysts of the intestine of the pig, in all probability it has a direct bearing on the condition as seen in man, and furthermore, while this communication has to do only with the occurrence of gas cysts in the intestine, still it might be well to call attention to the fact that for many years gas cysts have been known to exist in other portions of the body, particularly in the vagina and bladder of pregnant women. As early as 1899, Hahn,[6] in reporting his case of gas cysts of the human intestine, collected thirty-two observations on human beings, nearly all of them in the vagina and bladder of pregnant women. It appears mostly toward the end of pregnancy and usually disappears soon after delivery. It manifests itself in the appearance of numerous small dense cysts filled with gas and scattered over the vaginal surface.

Anyone interested in the different views as to the origin of these cysts and their clinical histologic characteristics we would refer to the monographs of Winckel,[7] Eppinger,[8] Schroeder,[9] Zweifel,[10] Chiari, Briesky and Kummel,[13] where they will find the subject fully treated, together with a complete bibliography.

Whether these two conditions are identical or even closely associated can not now be determined, but it is an interesting fact that in Eisenlohr's[14] case, gas cysts were found present in both the vagina and intestine.

ETIOLOGY.

In general, the ideas as to the etiology of this peculiar affection may be grouped under three headings: 1, That it is a new growth; 2, that it is of bacterial origin; 3, that the presence of the gas cysts is due entirely to mechanical causes. Among the adherents to the new growth idea may be mentioned especially Bang,[1] who in 1876 reported the first case, Mair[3] and Kouskow.[15] Their ideas as to the pathogenesis of the disease cover practically the whole ground. Thus, Bang[1] considered the cysts to be a new growth which, starting with the lymph cleft containing the giant cell, in turn grew and spread. The cyst was formed by the degeneration of its center, the contents being at first fluid and later on, by means not explained, gas. He considered the possibility of this gas being secreted from the blood, as in the air bladder of fishes, a suggestion which curiously enough had first been made by John Hunter in the case of the pig.

Mair[3] rejects the idea of an inflammatory or infective origin for the growth, as the histologic picture presented differs from that seen in either of these two conditions. He believes the tumor to be a true neoplasm, the cells of which have the power of secreting gas. He cites as analogous the activity manifested by the cells in the alveoli of the lungs in the exchange of gases, as shown by the work of Haldane and Lorraine Smith. In the air bladder of fishes, which he thinks this tumor resembles more than any other normal structure, gases are secreted from the blood. He believes that these gas containing cysts are analogous in structure and formation to the air bladder of fishes, as had already been suggested by Hunter and Bang.

The giant cells, he believes, are formed by division of the nuclei of the fibroblasts. In these gas bubbles appear, and gas accumulates around them under sufficient pressure to distend the tissues and form the thin-walled cysts observed. Kouskow[15] believes the tumor to be of congenital origin, and that it develops from the fixed elements of the connective tissue.

In favor of the bacterial origin of the disease are to be found Eisenlohr,[14] Hahn,[6] Winands,[16] Jaboulay[17] and others. All of these observers found bacteria in the tissues of the tumor removed, but there seems to be no uniformity in the particular variety of bacteria found. Cocci and bacilli showing different morphologic characteristics have been described by different observers. As against this idea, may be mentioned the fact that no specific organism has been discovered; that several observers have failed (my own case included) to find bacteria at all in the tissues of the tumor; and the entire absence of any evidence of inflammation. Among those who believe that a mechanical obstruction of some sort is the basis of this trouble may be mentioned Verebély.[18] He considered that the gas in the cysts came from the intestines by way of the tuberculous abscesses which were present in his case, in addition, and that the enlargement of the stomach which also was present, was partly responsible. He quotes Schmutzler as advocating the idea that the intestinal gases may penetrate into the subserous tissues when under strong pressure.

Mori[19] at first adhered to the idea of a bacterial origin of the growth, but after operating on the patient a second time on acount of symptoms of intestinal obstruction, he found to his surprise that the cysts had entirely disappeared. On this account he was inclined to the view that the entire condition was due to circulatory disturbances. If these are relieved, as had been done in his case at the first operation, he believes the condition can be cured.

After carefully studying the conditions as found in my case, which will be presently related, and in the absence of evidence of bacteria either in the tissue or on culture, the most rational explanation of the growth would seem to be that it is a definite entity, a distinct variety of tumor, the cells of which have the faculty of secreting gas. Prof. William H. Welch, who very kindly examined secretions of the tumor, also inclines to this idea. The question as to just what rôle, if any, is played by bacteria in the etiology of this affection will have to be left for the present *sub judice.* Further evidence is necessary to explain conflicting reports. As favoring, however, the idea that the tumor is the result of some obstructive process, circulatory or otherwise, may be mentioned the fact that in practically every case so far reported, this particular tumor has been associated with disease of some portion of the intestinal canal producing a more or less complete obstruction to the lumen of the bowel. The usual form of obstruction has been a constricting ulcer either active or healed, at the pylorus. In two instances (Mori[19] and Kadyan[20]) the lesion was tuberculous. My case is the first in which the presence of cancer has been noted.

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[6] Ueber Pneumatosis cystoides intestinorum hominis und einen durch Laparotomie behandelten Fall. Deutsch. med. Wchnschr., 1899, xxv.

[7] Arch. f. Gynäk. 1871, ii.

[8] Ztschr. f. Heilk., Prague, 1880, i.

[9] Arch. f. klin. Med., 1874, xiii.

[10] Arch. f. Gynäk., 1877, xii; 1881, xviii; 1887, xxi.

[13] Virchow's Arch. f. path. Anat., 1888, cxix.

[14] Das interstitiel Vaginal-Darm und Blasenemphysem. Zuruck fuhrt auf gasbildende Bakterien. Beitr. z. path. Anat. u. allg. Path., 1888, iii.

[15] Gas Cyst of the Intestine, Boln. Gaz. Botkina (Russian). Oct. 7, 1891, 996 and 1029.

[16] Ueber einen Fall von Gascysten in der Darmwand und in peritonitischen Pseudomembrane, Beitr. z. path. Anat. u. allg. Path., 1895, xvii.

[17] Lyon Médical, 1901, xcvi, 733.

[18] Pneumatosis cystoides intestin. Orvosi Hetil., 1901, xiv.

[19] Ein Fall von Pneumatosis cystoides intestinorum hominis. Deutsch. Ztschr. f. Chir. .1907, lxxxviii.

PATHOLOGY.

Of the pathology of the condition, one can not speak very definitely. The histologic findings, however, reported by different observers have presented a strikingly uniform picture. The main characteristics have been a more or less dense fibrous tissue framework, containing many round and spindle cells in various stages of development. In this fibrous tissue mass are to be seen clefts and spaces of varying sizes. These are not uniformly lined with endothelium, but here and there in their walls most observers have reported finding peculiar large giant cells containing many nuclei; as many as fifty to sixty have been reported. In and about these giant cells air spaces have been almost invariably found. Here and there also an apparently definite endothelial lining to the walls of the air cysts has been observed. These tumors as a rule are richly supplied with blood vessels, and some observers have reported the presence of hemorrhages into the tissue. This was quite pronounced in our case. Smooth muscle fiber and elastic tissue have also been reported as present in some cases. Analysis made of the air in the cysts shows it to resemble very closely atmospheric air. The tumor has been observed in all the layers of the intestinal walls. In the majority of instances, perhaps, it is more pronounced in the subserous tissue.

I am indebted to Dr. W. G. MacCallum of the pathologic department of the Johns Hopkins Hospital and to Dr. Charles E. Simon, pathologist to the Union Protestant Infirmary, for an examination of the tissues removed. The substance of their report is as follows:

PATHOLOGIC REPORT.

The specimen consists of a mass of rather soft tissue in which there are nummerous cyst-like cavities filled with gas, sometimes under considerable pressure. On section, it is found to be composed of a loose fibrous tissue rather richly vascular, and surrounding spaces varying greatly in size, from microscopic to 1.5 cm. (⅝ in.) in diameter. While these spaces are not everywhere lined with endothelium, still here and there can be seen endothelial-like cells which at intervals have formed definite giant cells, containing many nuclei. In one place, in the midst of the fibrous tissue the cells are seen to be greatly swollen and vacuolated, with deeply stained nuclei. It may be questioned whether this is not the point of origin of a new cyst. In many places there are small groups of greatly swollen vacuolated cells in which the protoplasm seems to be blown up by bubbles of gas or globules of fluid. Such groups are usually round or oval. Where they are best developed they have the appearance of a network of protoplasm processes with scattered nuclei. Generally the groups are surrounded by concentrically arranged connective tissue, and in places muscle. Apparently they are really blood vessels. Indeed it is plainly seen in places that not only in cross but in longitudinal sections, blood vessels which show well developed elastic lamellæ are almost or completely occluded by the swelling of the endothelial cells, which balloon out to a great size, the flattened nucleus remaining in the middle. How circulation could have persisted with such extensive obstruction of the vessels is a problem. Not only the endothelium, but also the cells of the adventitia show the swelling or ballooning and there are numerous cells apparently belonging to the connective tissue which are similarly enlarged and filled with great vacuoles. This gives the whole tissue its very loose appearance. There are numerous mast cells scattered about and a few eosinophile cells. In some parts of the tissue there are so many of the vacuolated cells and the tissue is thus rendered so loose and soft looking that it is not difficult to imagine that this might be the method by which the cysts originated, but the nature of this vacuolization is far from clear.

No bacteria were found in the tissues in this case by either Dr. McCallum or Dr. Simon, nor did any growth take place in aërobic or anaërobic culture. The gas contained in the cysts was in such small amount that satisfactory analysis of it was not possible but it was odorless and did not burn. Numerous extravasations of blood into the tissues were to be seen.

Clinically, there is no definite characteristic picture that can be recognized, although Hahn[6] states that he believes he could recognize the condition again, and Stori[21] calls attention to a light crepitus which he felt on palpation of the abdomen. Certainly, in the majority of cases there are no symptoms that can be specifically referred to this condition, but in one or two instances (Kadyan[20] and Hahn[6]) it did seem as if the symptoms of abdominal pain and constipation complained of by the patient, could be partially at least accounted for by the presence of the tumor.

DIAGNOSIS.

The diagnosis, then, of this disease, is made usually at operation for some other trouble, or at autopsy.

TREATMENT.

Little can be said as to the treatment. The obstructive symptoms if sufficiently pronounced, would require first consideration, but these have been present in very few instances. In the majority of the cases that have been observed during life, it has been overshadowed by some other more important affection, the relief of which has been followed either by improvement or complete disappearance of this tumor. In Kadyan's[20] case, which was associated with tuberculous peritonitis and which necessitated opening the abdomen three times, at the last operation a number of gas cysts still remained, although most of them had disappeared. In Mori's[19] case, at the second operation, which was necessitated by abdominal pain due to adhesions, it was found that the cysts had entirely disappeared.

B. L. F. BANG'S CASE.

Macroscopic Examination.—At the autopsy performed on a woman, aged 57, who had died of volvulus, there were found numbers of air-filled cysts covering an area of about two feet of the ileum. They varied in size from a pea to a bean and were mostly in the muscular layer of the gut, which in their neighborhood was very much thickened, sometimes three times that of the normal. The serosa was everywhere covered with an old peritonitic membrane in which, over the affected part of the ileum, numerous air cysts were also found.

Microscopic Examination.—The cysts were lined by an endothelium whose cells were very large, often being thrown up into giant cells of thirty or forty nuclei, having a finely granulated protoplasm. The tissue around the cysts was very rich in dilated blood vessels and lymph vessels, none of which were connected with the cysts. In some of these lymph clefts there were multinucleated giant cells similar to those found in the lining membrane of the large cysts.

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[20] Pneumatosis cystoides intestinorum hominis, Russk. Chir. Arch., 1902, xviii, 1183.

[21] Contributo allo studio delle cisti gassosse dell, intestino umano. Clin Med., Pisa, 1904.

WILHELM EISENLOHR'S CASE

Examination.—At the autopsy, performed on a woman, aged 49, who had died of heart disease, numerous bullet shaped cysts were found in the bowel wall near the ileocecal valve. Similar cysts were in the anterior wall and labia of the vagina. Those occurring in the intestine were found in the submucosa, muscularis and serosa and reached the size of a pea. Some of them communicated with each other and were connected with the surrounding lymph capillaries, which were very much dilated and had in their walls numerous giant cells which were at times connected with the endothelium. The same condition was present in the large cysts, which were lined with endothelium, the latter not being present in all of them. In some of the cysts, lymph vessels and dilated lymph capillaries numbers of bacteria were found

ANTONIO C. DE CAMARGO'S[22] CASE.

Macroscopic Examination.—At autopsy performed twenty-four hours after death on a man, aged 66, who had died of pulmonary tuberculosis, the cecum and ascending colon were found rigidly contracted for 30 cm. (12 in.). The intestinal wall was much thickened, slightly elastic and filled with numerous knobs which consisted of thickly pressed together cysts of different sizes. The contents was gas which had no odor. They were situated in the submucosa and the muscular layer, both of which were considerably hypertrophied, making the gut wall four or five times thicker than the normal.

Microscopic Examination.—The microscope showed that some of the cysts, which were as a rule round, communicated by atrophy of their walls. Sometimes, not always, an endothelial lining of large flat cells could be made out, in which occasionally large giant cells having fifty or more nuclei occurred No connection could be traced between the surrounding vessels and the cysts Clumps of small elongated bacteria, sometimes united end-to end, similar to those found in Eisenlohr's case, were found in the walls and in the lumen of the cysts. No cultures were made

KOUSKOW'S CASE

History.—In 1891 a man, aged 57 died after having suffered for a number of years from symptoms of ulcer of the stomach and constipation.

Macroscopic Examination.—At the autopsy three loops of the small intestine were found matted together and involved in a tumor 10 cm. (4 in.) long by 5 cm. (2 in.) wide and 3 cm. (1¼ in.) thick. In addition to this, there were similar smaller tumors on two or three loops a little distance away. The surface of the tumor was translucent everywhere and irregular. Palpation gave the sense of a firm, dense and quite tense membrane, incision of which was followed by a noisy escape of gas showing that this membrane was the outer wall of numerous separate cystic cavities varying in shape and size the largest being about 6 cm (2¼ in.) in diameter None of these cysts connected with any other, they contained nothing but gas and their walls were always dry and glistening The inner wall was thin, light and more transparent than the other. One of these loops was twisted around the other two, partially obstructing them, thus causing the symptoms of obstruction from which the man suffered.

Microscopic Examination—The tumors stood in intimate relation with the walls of the intestine and consisted of a multitude of cavities of varying size, of which the larger were situated in the center and toward the free surface, while the smaller were adjacent to the walls of the intestine or within their thickness Each cyst had a definite wall made of connective tissue, inside of which there was a lining membrane composed of a compact layer of very flat giant cells of various shapes up to 1 mm long, packed closely together and containing numerous, sometimes hundreds, of nuclei of round and slightly oval shape. The protoplasm was slightly granular and more or less pigmented. Numerous dilated blood vessels were found all around the cysts

WINANDS' CASE

History.—In May, 1890, a woman, aged 49, died in the Marburger Medical Clinic, who had suffered for a number of years from severe pain in the abdomen, constipation, which at times amounted to an obstruction and meteorism.

Macroscopic Examination—At autopsy, performed forty-four hours after death, an old ulcer and dilatation of stomach were found, but in addition the greater part of the ileum and the ascending colon were found covered with innumerable translucent cysts, some of which were situated in a pseudo-membrane covering the bowel, the remains of an old peritonitis, and formed clusters like a bunch of grapes, while others were in the intestinal wall itself. The cysts were mostly on the convex surface of the bowel, varied in size from a pea to a cherry, and contained a gas which had no odor and did not burn.

Microscopic Examination.—The serosa generally was only a bit thickened. The mucous membrane was intact. The muscularis mucosa was, in the region of the cysts, very much hypertrophied. The submucosa was replaced mostly by a homogeneous looking tissue, poor in nuclei, while in the region of the cysts, it was almost entirely absent These (the cysts) lay both in the circular and longitudinal muscle which had undergone atrophy in their neighborhood, due to their gradual growth and the consequent pressure. Some cysts had become united through the partial atrophy of their walls. They had an endothelial lining for the most part, and a wall outside of this made of connective tissue. In their neighborhood numerous little hemorrhagic areas were seen. In some of the small, dilated lymph spaces large irregular giant cells having twenty to thirty nuclei (probably springing from the endothelium) were to be seen. Similar cells were also occasionally found in the walls of the larger cysts.

Numerous short bacilli of various sorts were present on the inner surface of the cysts, while only a few were in the neighboring tissues. Their form and arrangement, however, were not characteristic enough to separate them from the usual putrefactive organisms

HAHN'S CASE

History—Man, aged 35, had suffered for two years from pain in the abdomen, accompanied by alternate diarrhea and constipation

Examination—On opening the abdomen, innumerable cysts were found scattered all over the intestine, large and small, some of which were pedicled, some flat on the serosa, from which alone they all sprang They looked like echinococcus cysts, but contained a gas which did not burn There was no tumor and the pylorus was patent, but the stomach and ascending colon were greatly dilated. Some of the cysts were removed entirely, others simply punctured, as many as possible being handled, and the abdomen was closed. The patient was able to have a good stool ten days later after an enema, and was discharged much improved, though not well Six months later his condition was still fair, but he was troubled greatly by constipation The cysts were on the convex side of the bowel and varied in size from a pea to a cherry. The intestinal musculature was atrophied. Cocci grew on culture, but it was impossible to determine their exact nature.

KÖRTE'S[23] CASE (DISCUSSION OF HAHN'S PAPER)

History—A woman, aged 62 was operated on in 1878 for an incarcerated crural hernia, and died seven days later with signs of peritonitis. At autopsy, performed very soon after death, the pylorus was found narrowed by the scar of an old ulcer, and the stomach was greatly dilated The small intestine was irregularly contracted and narrowed in numerous places and contained in its walls cystic tumors varying in size from a pea to a cherry, which, when opened under water, set free bubbles of air. They were sharply outlined, the air could not be pressed hither and thither like an emphysema of the connective tissue. There was no inflammation in the neighborhood. The microscope showed the cysts to be in the submucosa, no endothelial lining could be made out.

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[22] Recherches anatomiques sur l'emphysème spontané Thèse inaug., Genève 1891.

[23] Deutsch med Wchnschr 1896, xxii 257

WIKERHAUSER'S[24] CASE.

Macroscopic Examination.—During an operation on a man aged 35—a gastroenterostomy to relieve a dilated stomach, the result of stenosis of the pylorus following an old ulcer—the intestines were found covered with round grape-like bodies, varying in size from a millet seed to a small cherry.. They occurred singly on a small pedicle, or in larger or smaller aggregations, being usually on the side opposite to the mesentery, though in some places the intestine was completely surrounded. When touched with the fingers, they crepitated and when broken or punctured contained only air. After removing some of them for examination, the gastroenterostomy was finished and the abdomen was closed, but the patient died two weeks later of peritonitis. At the autopsy the viscera were so matted together that no trace of the cysts could be found.

Microscopic Examination.—Those removed showed that they were lined with an endothelium which in places was hypertrophic and two or three rows thick, while in others the cells had two or more nuclei.

MIWA'S[25] CASE.

History.—Male, aged 42, who had suffered for years from "stomach trouble" and tuberculosis of the lungs and spine. Diagnosis uncertain, but pylorus was thought to be stenosed. The patient's condition became steadily worse, death ensuing shortly after.

Examination—At the autopsy, nine hours later, numerous air cysts, varying in size from a hemp seed to a pigeon's egg, were found situated on a part of the ileum, having a length of 30 cm. (12 in.). They were placed very near and on top of each other and were in both the serosa and submucosa. They exploded on pressure with the finger. The lumen of the bowel was narrowed at their situation. The air in the cysts neither smelled nor burned.

TIBOR VEREBÉLY'S CASE.

Macroscopic Examination.—At the autopsy performed on a man, aged 30, who had died of pulmonary tuberculosis, there were found, in addition to a dilated stomach due to an ulcer, on the lower ileum and cecum, numbers of rather flat cysts occurring singly or in groups, which contained an odorless and non-inflammable gas. A few, however, on being opened, discharged a solid yellow matter.

Microscopic Examination.—The cysts were found in all the layers of the intestine, mostly, however, in the submucosa. They were lined with endothelium and contained many giant cells, also cheesy masses in their walls. Numerous tuberculous abscesses were noted in the intestine. Bacterial examination negative.

JABOULAY'S CASE.

History.—Man, aged 50, who had suffered eight years from a greatly dilated stomach due to stricture of the pylorus from an ulcer. At operation, in addition to finding the pylorus stenosed by an old cicatrix, numbers of gas cysts, varying in size from a pin head to a small nut, were found covering the small intestine. There was also a sort of nest of them on the diaphragm at about its center. Nothing at all was done to the cysts, it being thought best to treat them like a tuberculous peritonitis, i. e., simply let them alone.

WILLIAM THORBURN'S[26] CASE.

Macroscopic Examination.—A woman, aged 42, was operated on for enormous dilatation of the stomach. A cicatrix was found near the pylorus, which, however, was patent. A thick band of adhesions, four inches long, was found constricting the stomach. During the removal of this there was found to the right of the great omentum a collection of rounded cystic masses, extending into the right hypochondrium. The numerous cysts varied in size from that of a pea to that of a walnut and were closely packed together. Each little cyst had a thin transparent but well-defined wall, they were separated only by a delicate fibrous tissue of greater tenuity than the omentum itself. Some contained a thin colorless fluid, rather more glutinous than serum, but the majority were filled with an odorless gas. The patient died about four weeks later with symptoms of a perforated ulcer of the stomach. No autopsy was obtained.

Microscopic Examination (made by W. Mair).—This showed that some of the cysts had an endothelial lining while others did not. Multinucleated giant cells were found both in the wall of the cysts and lying free in the lumen, also in some connective tissue nodules found in the supporting framework of the tumor mass.

NIGRISOLI'S[27] CASE.

Macroscopic Examination.—A man, aged 25, had suffered for some years from symptoms of ulcer of the stomach and intestinal obstruction and came to operation for their relief. On opening the abdomen, in addition to pyloric stenosis, a part of the small intestine about 60 to 70 cm. (24 to 30 in.) long was found to be covered with groups of fine shining cysts, resembling somewhat echinococcus cysts. Some of them were pedunculated and isolated, while others occurred in masses. Their size ranged from that of a pea to a small nut, sometimes they were round, sometimes oblong. On breaking them, a gas escaped, which had no odor and did not burn. They were most numerous along the insertion of the mesentery. Numerous dilated blood vessels ran all over them. After removing a few for examination, a gastroenterostomy was done by means of a Murphy button. The patient did well until about three weeks later, when the button ulcerated through the bowel, causing death by peritonitis. At the autopsy no trace of the cysts on the intestine or on the mesentery could be found.

Microscopic Examination.—The cysts showed that they had an endothelial lining, and a wall made of connective tissue.

KADYAN'S[28] CASE.

Macroscopic Examination.—A woman, aged 31, was operated on for tuberculous peritonitis. On opening the abdomen the intestines were found covered by a mass of tubercles of varying sizes, among which were numerous vesicles, the dimensions of which ranged from a pin head to the size of a cherry. Some were suspended by pedicles. They were perfectly transparent, and all were filled with air, collapsing when punctured. The abdomen was closed without anything being done. The patient had suffered a great deal from ascites and constipation. The patient was better for a time, but as the ascites and constipation recurred with increasing severity, the abdomen was again opened about three weeks after the first operation. The picture as regards the cysts was approximately the same as at the first operation, but the tubercles had entirely disappeared. After puncturing and mashing some of the cysts, therefore, and after removing those suspended on pedicles, the abdomen was again closed. Two months later, that is, on Feb. 19, 1894, as the patient's condition again got worse, a third laparotomy was done. The small intestines were covered with air cysts of all possible dimensions, from a pin head to the size of a cherry or larger. Many of them were pedunculated. On pressure they burst, but, as before, contained only air. The tubercles were still absent, being replaced by whitish spots. The patient recovered from the operation, and at her [illegible], although there [illegible] still distention and fluid in th[illegible] [illegible]e pain an[illegible] [illegible]pation had been relieved.

Microscopic Examination.—[illegible] cysts t[illegible] fibrous wall, which was lined [illegible] layer[illegible] round cells of the endothelial t[illegible]

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[24] [illegible] cystoides intestinorum hominis, Hahn. Liec. [illegible] 1900, xxii.

[25] Ueber einen Fall von P[illegible]umatosis cystoides intestinorum hominis nach Prof. Dr. Hahn, C[illegible]tralbl. f. Chir., 1901, xvi, 427.

[26] Gastric Ulcers: Perigastri[illegible] Adhesions: Enormous Dilatation of the Stomach: Gas-containing Cysts in the Omentum: Med Chronicle, 1902-3, iv, 256.

[27] Sulle cisti gassose dell' [illegible] med., Imola, 1902.

[illegible]

T. STORI'S[21] CASES.

CASE 1.—*History.*—While doing a gastroenterostomy on a woman, aged 38, for stenosis of the pylorus and dilatation of the stomach, a round mass, looking like insufflated lung tissue, and about the size of a nut, was found lying above the gastrohepatic ligament. It was made up of many round cysts ranging in size from a pin head to a bean, the walls of which were thin and transparent. They contained a gas which had no odor and did not burn. No other similar growths were to be found. After removing a portion of the mass for examination, the gastroenterostomy was finished and the abdomen closed. The patient made a good recovery.

CASE 2.—*Macroscopic Examination.*—A man, aged 30, had suffered for some years from pain in the abdomen, especially after meals, vomiting and had lost weight. On examination the stomach was found greatly dilated, and in the right inferior portion of the abdomen a crepitus, similar to that present in a localized peritonitis, was obtained on pressure. A diagnosis of stenosis of the pylorus was made. After performing a gastroenterostomy, it was found that about a meter (39 in.) of the ileum near the cecum was surrounded by a gray mass, lobulated and soft, like insufflated lung tissue. It arose from the mesentery and some of the lobules were pedunculated, while others were not. The lobules had very thin walls, were transparent, ranged in size from a pin head to a small nut and contained an odorless and non-inflammable gas. After removing a small portion for examination, the abdomen was closed, the patient making a good recovery.

Microscopic Examination.—The walls of the cysts were made up of connective tissue, inside of which was a layer of endothelial-like cells. Stori isolated from a fragment of the cyst of the second case a coccus, more like a diplococcus, which produced gas on lactose agar cultures. Animal experiments, however, were negative.

M. MORI'S[19] CASE.

History.—A man, aged 37, complained for eight years of a feeling of fulness in the stomach after eating, sour belching and very obstinate constipation. The abdomen was greatly distended and the stomach dilated, reaching as low as the symphysis. At operation the whole of the small intestine, except the upper part of the jejunum and the lower ileum, was covered with innumerable air cysts varying in size from that of a hemp seed to a walnut, occurring sometimes in the form of a bunch of grapes having a pedicle and sometimes singly.

Believing that this condition was partly responsible for the dilatation of the stomach and the patient's pain, Mori did an anastomosis between the two healthy parts of the bowel. He also did a gastroenterostomy, as the pylorus was drawn high up by adhesions which could not be broken down. The patient was discharged, much improved.

Microscopic Examination.—The cysts were situated almost entirely opposite to the mesenterial insertion. The muscle of the intestine was atrophied. The walls of the cysts were very thin and broke easily when pressed by the finger, setting free a gas which did not burn. There was no endothelial lining to the cysts. Numerous cocci and bacilli were found here and there, both in the lumen and the tissue round about.

Nine months after the above operation it became necessary for Mori to perform a second laparotomy on the patient because of pain in the abdomen and symptoms of obstruction due to adhesions. To his surprise, there was not a sign of a cyst to be seen on any part of the gut.

W. MAIR'S[3] CASE.

History.—During a gastroenterostomy for pyloric stenosis on a young man, 23 cm. (9 in.) of the small intestine were found involved in a tumor mass made up of cysts and were resected. The tumor had given no symptoms. The patient recovered.

Macroscopic Examination.—The specimen consisted of a lobulated mass of gas-containing cysts, the smallest being barely visible, the largest about the size of a walnut. With the exception of a very few small ones close to the bowel, the mesentery was not involved, most of them being situated opposite to the mesenteric attachment. The cysts did not communicate. Some contained a small amount of fluid, but most of them, when punctured collapsed with the escape of an odorless gas. Cultures on agar were sterile.

Microscopic Examination.—Some of the cysts had an endothelial lining. Multinucleated giant cells were found both in the wall of the cysts and lying free in the lumen. In addition, there were some connective tissue nodules in the supporting framework of the tumor mass. Fibrocytes were likewise found in places. Dilated blood capillaries and vessels surrounded the cysts.

GRONDAHL'S[28] CASE.

Macroscopic Examination.—At the autopsy of a man, aged 31, who had suffered for some years from symptoms of ulcer of the stomach, in addition to a constricting ulcer in the duodenum and an enormously dilated stomach, one meter (39 in.) of the ileum was found to be covered with innumerable cysts. These varied in size up to that of a bean, were situated close together and occurred sometimes singly, lying flat on the serosa, sometimes in groups and occasionally at the end of a long and thin pedicle. Numerous small hemorrhages were to be seen. On pressure the cysts burst and contained a gas that neither burned nor had an odor, and on analysis was very similar to atmospheric air. Only the free border of the bowel was involved, no cysts being on the mesentery itself.

Microscopic Examination.—The cysts occurred in the mucosa, submucosa and serosa and had, as a rule, an endothelial lining, and outside of this a wall of connective tissue poor in nuclei. By serial sections the author claimed to be able to distinguish the union of the lymph vessels with the cysts. In some collapsed cysts occurring in the submucosa, numbers of many nucleated giant cells were to be seen. No cultures were made. A Gram-positive organism was, however, found in the proliferating lymph vessels, but it was neither characteristic nor frequent enough to be of any value.

The cases of Durvenoy, Cloquet, Dupraz and Orlandi referred to by some authors as instances of this condition are, I believe, due to postmortem changes, the result of gas bacillus infection, except, perhaps, the case of Dupraz, which he himself refers to as a case of proliferative lymphangitis. The case of Marchiafava mentioned by Winands has to do with serous cysts only and does not belong here.

ABSTRACT OF DISCUSSION.

DR. WILLIAM H. WATHEN, Louisville, Ky.: All that we seem to know about this tumor is that it consists of increased connective-tissue growth in which are numerous loculi filled with air in the lower part of the ileum. It is not positively known whether this excessive growth is entirely of connective tissue. There can apparently be but three sources of gas in this tumor—bacteria tissue products or pressure forcing the gas from the bowel into the cyst. There is no definite condition that tells us which of these theories must be accepted. It seems that nearly every one of the few observed cases has been associated with a constriction of the intestine near the pylorus, obstructing the flow into the lower bowel, but in the lower animals that have been examined there was no such constriction. Hence the idea of assigning the constriction as a cause can not be tenable, for the reason that the anatomic structures of the gastrointestinal tract in the lower animal are practically identical with the anatomic structures of the human being. We have never been able to diagnosticate one of these tumors until an exploration was made for some other trouble or at a postmortem examination. Fortunately, it appears that these tumors are not a serious danger to human life. It is easy to understand that, in any condition in which there is an obstruction of the circulation in the bowel and an increased growth of connective tissue in the muscularis of the bowel or in the connective tissue of the peritoneum by pressure alone gas could be forced out into these loculi. On a similar hypothesis, where the same condition exists, gas might form by the passage of bacteria into these loculi, but the bacteriologic examinations have up to the present been so unsatisfac-

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28. Deutsch. med. Wchnschr., 1908, p. 913.

tory and conflicting that we know but little about that. We should probably be more likely to find some variety of colon bacillus, because the condition is located in the lower ileum, though it seems that a few bacteriologists have asserted that they have found some cocci in these tumors.

Dr. J. M. T. Finney, Baltimore: This tumor is very rare, the instance reported being the first that has been observed in this country. The chief interest centers in its etiology, and this will, for the present at any rate, have to remain unknown. Whether it is a tumor of distinct character or whether of bacterial or obstructive origin is as yet undetermined. Histologically the tumor is of great interest. The disease appears to be confined to no one locality, but is widely disseminated, cases having been reported from Norway, Russia, Japan, Italy, France, Germany and England, but only one or two cases from each country. If the tumor is of bacterial origin, and the bacteria giving rise to it are of the colon group which are so common, it would be interesting to know why it does not occur more frequently.

THE INOCULATION TREATMENT OF GONOCOCCUS VULVOVAGINITIS IN CHILDREN.*

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Gonococcus vulvovaginitis in little girls is a much dreaded disease, especially when it occurs as a hospital epidemic. Its obstinate nature and possibly serious consequences are too well known to need comment. All methods of treatment hitherto have been futile and we have had to be content to let the infection wear itself out.

The success of the inoculation method of treating certain forms of gonorrheal affections in the adult suggested the possibility that it might also be of value in the management of this form of vaginitis in little girls. Accordingly, during this last winter, we have been treating patients in our ward at the Cook County Hospital with injections of dead gonococci and studying the results. The main object of the study has been to determine whether or not this method of treatment would lessen the duration of the disease. Incidentally, observations[1] have been made on the opsonic index of children afflicted with this infection and on the effects of the inoculations on the index and vaginal discharge. The results of the study form the subject of this paper.

TECHNIC.

The estimation of the opsonic index has been done by the usual Wright method. The "pool" serum has been prepared from the blood of three healthy adults. The killed bacteria, prepared and standardized also by the Wright method, has been usually made from old strains of one organism. The dosage has, of course, been more or less a matter of guesswork; we have started with about fifteen millions, gone as high as one hundred and twenty millions for the oldest girls, and sixty or eighty millions for those about 5 years of age.

Forty-one patients in all have received the inoculations. Other therapeutic measures, douching, etc., have been omitted during injections. We have been able to treat continuously only eighteen patients. Of the others, most have been taken out of the hospital by their parents *before treatment* was completed; a few have died. A patient has been called "cured" when all discharge has ceased and when four successive bacteriologic examinations of smears taken from the vagina failed to show the specific organism, these tests covering a period of seven to fourteen days. We use the term "cure" advisedly, well knowing the tendency of this disease to recur, after long periods of apparent quiescence. In order to make our results as reliable as possible, we have attempted to follow up all our patients, but with little success. We have recent reports on only 9 of them, distributed as follows: Four in their homes, 3 in the hospital, 2 deaths. Of 13 patients followed to their homes, only 4 could be found. Three of these had positive smears on May 21, 1908, three weeks, 1 month and four and one-half months, respectively, after their discharge from the hospital. The fourth one had a negative smear on the same date, three months after discharge.

Three patients are now in the hospital for various reasons, having been free from vaginal discharge and gonococci two and one-half, three, and five and one-half months, respectively. Two died in the hospital twenty-one and twenty-five days, respectively, after the first of the four negative smears.

Thus, of 9 patients followed up, 6 have been found free from evidences of disease for periods ranging from three weeks to five and one-half months. Hamilton and Cooke had equally poor success in following their patients. They kept track of 7 patients for six or eight weeks; 3 only remained free from signs of disease, the other 4 relapsing within a week after leaving the hospital.

The causes for which the patients have been brought to the hospital have been varied. Three only were brought on account of a vaginal discharge which proved to be due to the gonococcus. Five others had such discharge at entrance, but came with the following diagnoses: One congenital dislocation of the hip, 1 typhoid, 1 malnutrition, 1 intestinal, and 1 tuberculous hip. The other 10 who developed the disease after admission came in with the following affections: Two pneumonia, 1 conjunctivitis, 3 tuberculous disease of joints or glands, 1 otitis media, 1 appendicitis, and 2 typhoid.

DURATION.

It being impossible to determine how long the disease had existed in those brought in with the infection, and equally impossible to determine whether its appearance after admission was a primary attack or a fresh exacerbation of an old, chronic process, we have not attempted to estimate the total duration of the disease. Our main object has been to see what, if any, effect the inoculations had on the course of the disease. We have, therefore, noted the time from the first injection up to the day of the first of four negative smears. This has been done in all but two cases: in these, two negative smears and an absence of discharge *for eleven days* has been accepted as evidence of "cure."

The duration of the hospital treatment of all cases ranged from two to eighty-four days. The duration of treatment in the cured cases ranged from two to seventy-seven days, and their average was twenty-three days. Among these, 3 developed contagious disease while under treatment; 2 varicella, 1 scarlet fever. This, of course, prolonged their stay in hospital, the time of these 3 cases being, respectively, thirty-eight, fifty and forty-nine days. Treatment was discontinued during their stay in the contagious ward. If these 3 cases be eliminated, it makes the average duration of the 16 remaining cases nineteen days.

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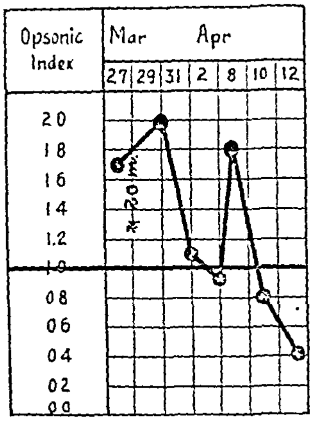
* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] This part of the work has been done in the Memorial Institute for Infectious Diseases



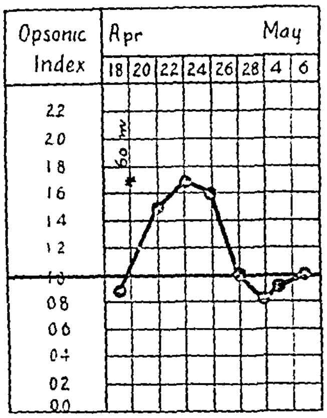


Chart 1. Case 1.—Alice W., 14 months. Vaginal discharge and gonococci disappeared within two days after first injection; there was high initial index and subnormal index at end. In all charts, inoculation is indicated by a star.

Chart 2. Case 2.—Annie D., 10 years. This patient had initial normal index with considerable discharge, no drop but quick moderate rise, then gradual fall to normal with cessation of disease. This was a mild case.

We have watched the effect of the injection on the vaginal discharge. It was not constant; sometimes a profuse discharge was lessened within a few days, sometimes increased, and still again, no effect was noted. It can not be said, then, that the injections had any immediate effect on the chief clinical symptom, and we can not look for any immediate result in this direction from an individual dose.

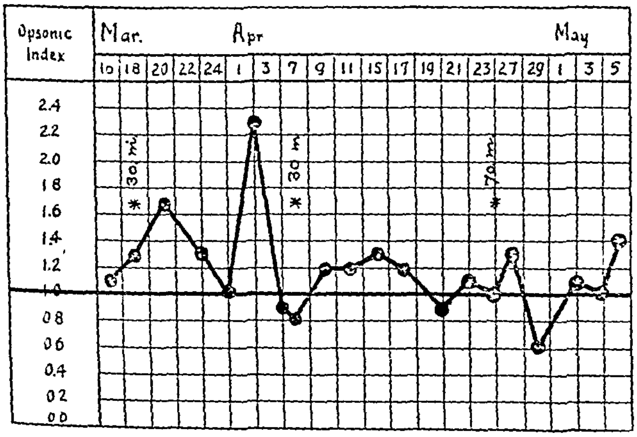


Chart 3. Case 3.—Frances V., 8 years. This was a mild but persistent case, with index, as a rule, high or normal. The second and third injections failed to cause as high a rise as the first. The patient was "cured" in forty-three days.

A comparison of our results with those of other observers would be of interest, but data on this method of treatment are naturally few. Two series of cases have been reported, however, both having been studied also in the wards of the Cook County Hospital, one by Butler and Long,[2] the other by Hamilton and Cooke.[3]

Butler and Long report twelve cases, but give no summary as to the average length of time under treatment nor any statement as to what they regard as a "cure." However, it is possible from the dates given in ten of the cases to estimate the duration, counting the time from the day of first injection up to the first of the two negative smears, which they evidently accepted as sufficient. On this basis the average duration of ten cases was forty-three days.

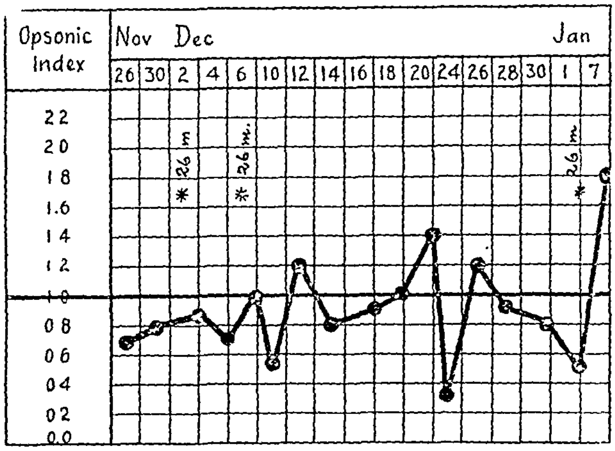


Chart 4. Case 4.—Ruth F., 4 years. This patient had otitis media and mitral endocarditis. The index was normal and there was profuse discharge. Attention is called to the slight drop, December 2, and equally slight rise even after two injections, also the increase in vaginal discharge from December 17 to 21, with a rising index, the great fluctuation without apparent cause, Decem-21 to 26, and finally, the marked effect of the third injection. The chart is discontinued from this point. There were four negative smears January 20-31. The patient developed scarlet fever February 1; died March 22.

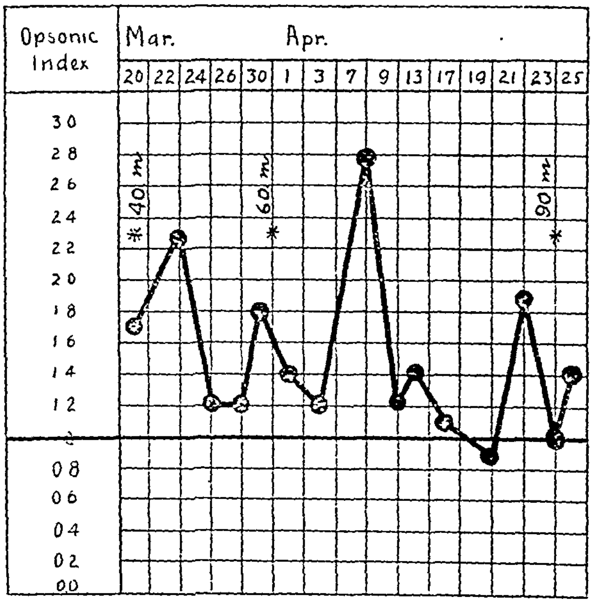


Chart 5. Case 5.—Rosie S., 6 years. This patient had an initial high index and profuse vaginal discharge. This was a persistent case with varying discharge, yet constantly high index. The patient left the hospital uncured after thirty-five days of treatment.

Drs. Hamilton and Cooke studied a large number of cases, mostly in the scarlet-fever ward. They are extremely conservative, and make no attempt to state the duration of their cases. They divided them into two groups of thirty each, inoculating all patients in one group and none in the other. They found that of the inoculated group, eighteen left the hospital free from discharge and gonococci, while of the uninoculated group only eight left in such improved condition, strong evidence in favor of the treatment and warranting their opinion that inoculation apparently does shorten the period of the disease.

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[2] Butler and Long: The Journal A. M. A., March 7, 1908, l, 714.

[3] Hamilton and Cooke: Jour. Infect. Dis., 1908, v, 158.

The discrepancy between the cases studied by Butler and Long and those studied by us is interesting, the duration being forty-three days in theirs, nineteen days in ours. The children in the two series were drawn from the same class of society, were living in the same ward under exactly the same conditions as to general surroundings, food, nursing, etc. Obviously, the difference must be due to some detail of technic, by which we mean everything pertaining to the vaccine, preparation, age of culture, dosage, etc., of the bacteria used. Butler and Long used a young culture, six or eight hours old, taken, apparently, in most of their cases, from one strain. We used old cultures, likewise taken from one strain. The difference in the results of the two sets of cases probably lies in this factor, that is, the difference in age of the cultures from which the material injected was prepared. In this connection the investigations of Hamilton and Cooke are interesting and striking. They experimented with both old and new strains, with the following results: In five severe cases treated with fresh strains the average duration of the purulent discharge was twenty-four days; in twelve severe cases treated with old strains the average duration was fourteen days. It also may be noted that in their more chronic cases the average duration of the vaginal discharge was about three weeks, practically the same as in our own. The killed cocci used in our cases were prepared in the same laboratory as theirs and often from the same strain. We believe, then that the shorter duration of our cases as compared with those of Butler and Long, is due to the fact that our cultures were old ones, while theirs were fresh.

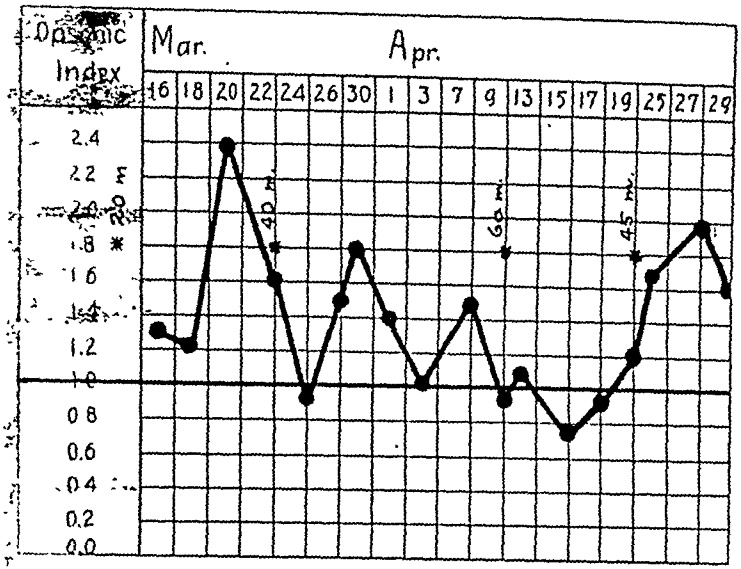

Chart 6. Case 6.—Josephine C., 6 years. Three injections of 32, 56 and 20 millions given, before taking index, on February 14 and 26 and March 13 respectively, probably account for fairly high, though falling index on March 16, and subsequent rise to a high point seven days after injection. Her case was an obstinate one; there was persistent profuse discharge, yet on the whole high index. The patient is still under treatment

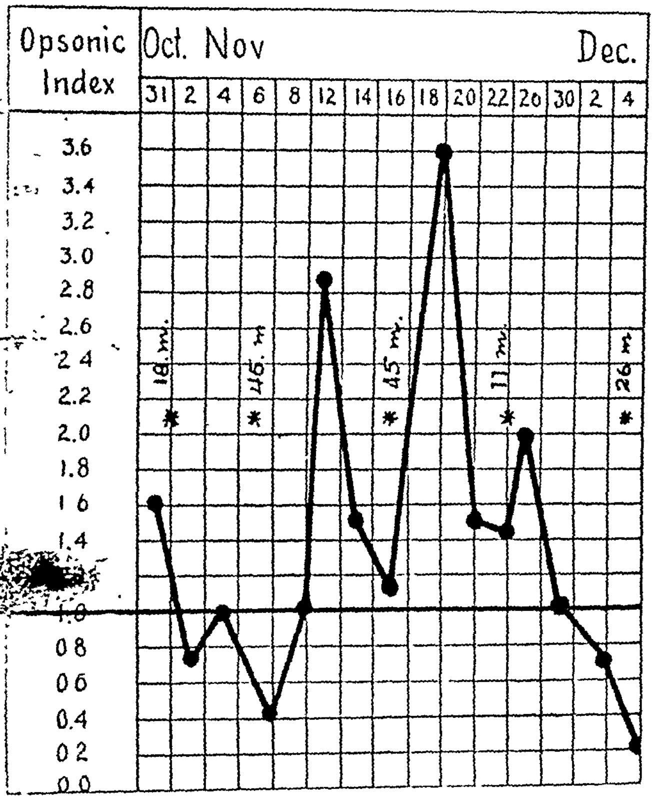

Chart 7. Case 7.—Eva St. C., 8 years. The patient had a high initial index even with much profuse discharge There was a "double" drop after first and second injections followed by the rocket-like rise to an extreme degree; then another drop checked by a third injection and followed immediately by a still higher rise; then the negative phase and fluctuation; a fourth injection followed by a steady decline to an extremely low point, just before the development of scarlet fever. Did the incubative stage of this infection play any part in causing this persistent drop. Compare Chart 8 (varicella). The patient returned from contagious ward January 21 and received a few injections. The index was steadily low. She went home after eighty-four days of treatment without results.

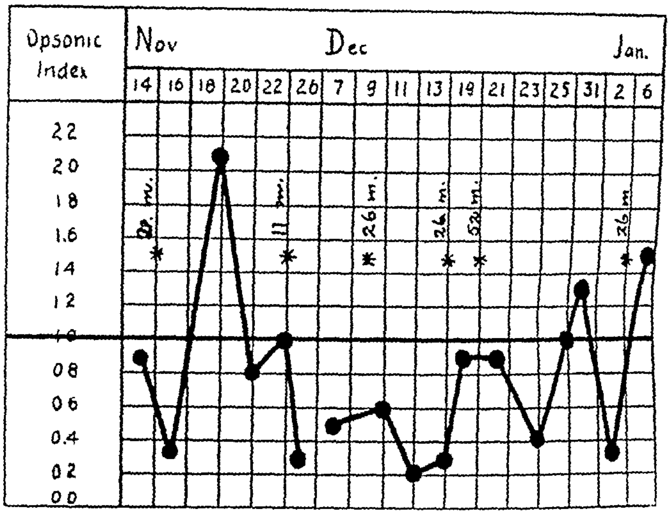

Chart 8. Case 8.—Annie K., 3 years The initial index was normal, and there was profuse discharge. There was a drop and then an immediate rise after the first injection. The patient was in quarantine with varicella from November 22 to December 7. From the time of this infection the index did not rise, in spite of repeated injections until a month later Was this persistently low index due to the varicella? Compare with Case 7, also a low index just before and after a contagious infection

THE OPSONIC INDEX.

This has been taken in 17 cases, 10 of the cured, 7 of the uncured. Observations have been made on the index at the beginning of treatment, on its general course, on its relation to vaginal discharge and finally on its relation to injections.

The index at the beginning showed nothing characteristic. The children were in a more or less debilitated condition, and one might have expected to find the index as a rule low. Such, however, was not the case. The indices ranged as follows:

	Normal	Below normal.	Above normal.	Average.
Cured .	1 patient	4 patients	5 patients.	1.1
Not cured.... ..	.	3 patients	4 patients.	1.2

Thus the index showed a tendency to range about normal in the cases taken as a whole. As between the cured and not cured, no difference is noted, the tendency to run at normal being just as marked in one group as in the other. The initial index, therefore, is of no prognostic value, and gives no hint as to whether the case will clear up easily or be an obstinate one.

The general course of the index was as follows:

	Generally above normal.	Generally below normal.
Cured	6 patients.	4 patients.
Not cured....................	6 patients.	1 patient.

That is, with the progress of the disease, the index showed a tendency to run above, rather than below normal, and this tendency, somewhat curiously, is more manifest in the cases failing of a cure, six of these running above normal and only one below. In the cured cases, the index manifested a decided tendency to approach the normal toward the end of the infection.

The relation of index to vaginal discharge has been noted. There is a certain correspondence between them, at least in the latter part of the disease, the index manifesting a tendency to approach the normal with the disappearance of discharge and organisms. But individual observations from day to day by no means show this correspondence, and the index can not be inferred from the character of the discharge; that is, a high index was not always accompanied by a slight discharge, nor a low one with a profuse one. Thus out of 46 observations on this point in the cured cases, this correspondence was present 26 times; it was absent 20 times; and among the not cured cases it was present 13 times and absent 13 times. Obviously, then, we can not infer the index from the character of the discharge; obviously, also, the discharge alone can not be taken as a guide to time of injection if our object in giving an injection be to "raise" a falling index and thus, presumably, increase the individual's resistance to disease.

THE EFFECT OF INJECTIONS ON THE INDEX.

After the first injection there was almost invariably a drop in the index for a day or two, followed by a rise. Sometimes the drop was considerable, at other times not; likewise with the rise. Subsequent injections acted in a similar manner, sometimes producing a more marked rise than the first, sometimes less. There was nothing constant about this.

It would be desirable to know the average number of days elapsing between the date of injection and the date of the height of the positive phase, that is, the day on which the index begins to fall. This average, however, must be based on a large number of observations, and the data at present available are not sufficient to determine this point. When a sufficiently large number of observations have been made, and we thus can determine approximately how long the effect of the inoculation lasts, we may perhaps dispense with the index, and give the injections at stated intervals until the vaginal discharge and organisms have disappeared. Indeed, as far as our own limited observations go, they would seem to indicate even now that the index is not necessary, for the average time of those cases with an index was twenty-one days, that of those without index was eighteen days. In the latter group the character of the discharge or persistence of gonococci, or both, were the guides to injections. However, the number of our cases is so small, that on the general principles governing opsonic treatment, it seems desirable to continue to take the index, for the present at least.

The accompanying charts show the relation of the opsonic index to the injections and also to the vaginal discharge, and illustrate some of the points mentioned in the body of the paper.

SUMMARY.

The inoculation treatment of vulvovaginitis apparently shortens the stay of patients in hospital. Whether or not it actually lessens the total duration of the disease, as compared with other methods of treatment, future investigations must determine.

Old strains are more effective than fresh ones.

It is desirable, though apparently not absolutely necessary, to take the index while pursuing the treatment.

There is no correspondence between the index and the vaginal discharge.

Our thanks are due to our colleagues on the staff of Cook County Hospital, who kindly allowed us to inoculate their patients, and to the Visiting Nurses' Association for their help in tracing patients. We also are under special obligation to Dr. Hektoen and Dr. Hamilton for much valuable help and suggestion in the opsonic work.

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VACCINE AND SERUM TREATMENT OF GONORRHEA IN FEMALE CHILDREN.*

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CHICAGO. BIRMINGHAM, ALA.

A clinical experience of ten years with institution epidemics of gonorrhea, occurring at not infrequent intervals, has convinced us that gonorrhea in female children is quite as intractable to treatment as it is in women, though not apparently presenting the many complications seen in the latter. It is not the domain of this paper to consider the causes and prevention of the development of such epidemics, nor to take up the general therapy of gonorrhea in children, which in our experience has been most unsatisfactory.

It was with a full appreciation of the latter fact that we undertook to investigate the merits of vaccine therapy in this infection. Being somewhat encouraged by earlier work in this direction, we have carried our investigations to other cases. We have likewise broadened our work to include serum therapy for gonorrhea, and will mention below the results of its use.

In view of the numerous articles lately appearing on the immunity question, we feel that we can dispense with any discussion of the theoretic basis of vaccine and serum therapy and likewise the question of the advantages of one over the other. The claim of Wright that vaccine therapy affords a more rational mode of treatment in local infections than the local use of antiseptics, while strongly sustained by theoretic considerations, requires substantiation, by the attainment of convincing clinical results. However, it has been with a conviction of the advantages of reinforcing the forces of immunization as a local therapeutic measure over other methods of local treatment that we began this work.

In our first paper on the subject we confined ourselves to narrating the results obtained in the cases treated, without any effort at analyzing them, believing also the number insufficient to draw any broad conclusions beyond suggesting that vaccine therapy seemed to be a suitable method of treatment in gonorrhea. We might state in advance that we see no reason, after continuing this method of treatment, to recede from that position.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

We have treated throughout by vaccine, guided by the opsonic index, 25 cases, in female children varying in age from 1½ to 12 years. We have limited the number of cases taken under treatment in order that we might study the index closely in each individual case. The patient's index was taken every other day, with few exceptions, throughout the period they were under observation. Every dose of vaccine was administered and regulated according to the index. No local treatment was used in any of our cases.

Usually from one to several indices were taken before the inoculations were begun, in order to study the immunity wave during this time. Occasionally, an index will be found at or slightly above normal in chronic cases, but, as a rule, it is more or less below this point, and the fluctuations are usually of narrow range. In one such case with an index above normal, it dropped after vaccine injection below normal and remained so for several days, in spite of second and third injections, before it began to rise. This is sometimes observed in a case, in any event, until a proper dose for the patient is found, when the index will rise rapidly and clinical symptoms often respond accordingly (Chart 1).

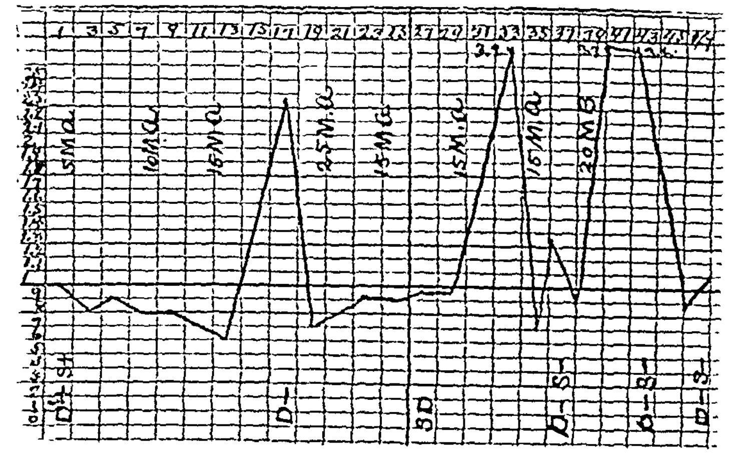

Chart 1. Showing slow response of index to vaccine injections until a sufficient dose is given, when index rises rapidly. Abbreviations: M = Million G = Gonococcus vaccine. A = Gonococcus vaccine made from single cultures. B = Gonococcus vaccine made from cultures of several cases of gonorrhea. D + = Discharge present. D — = No discharge. S D = Slight discharge. P D = Profuse discharge. S + = Positive smear. S — = Negative smear.

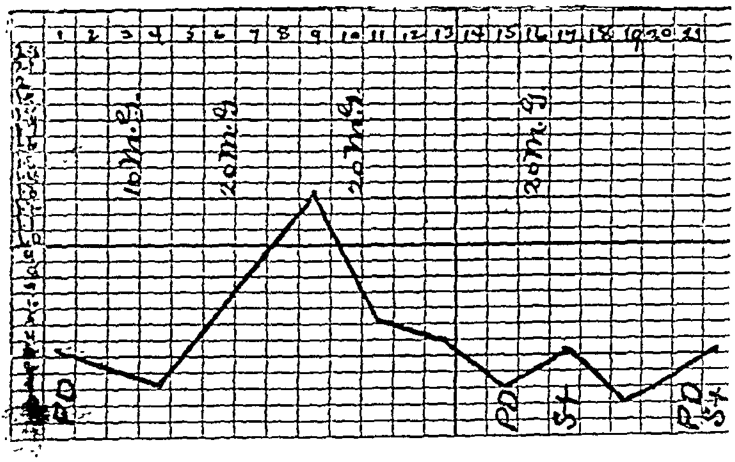

Chart 2.—Showing slight reaction of organism in severe nutritional disturbances.

In the cases treated by us two stock vaccines were employed, one prepared from a single culture, and another from several different cultures. We did not make any effort to cultivate the gonococcus from individual cases, either in the first instance to confirm the diagnosis, or in the second instance to make autogenous vaccines. We relied on the stained smear for diagnosis and on the stock vaccine for inoculations.

The dose of vaccine tolerable to a patient seems to have rather broad limits. In the first part of our work we began with one or two million and increased according to the indications of the index. In the latter part of our work, while not neglecting the principle just mentioned, of the value of which we have been convinced as the result of experience, we ran the dose to one hundred million in order to watch the effect of larger doses. In only one instance did we note any general reaction on the part of the patient. One child of eleven years, after receiving a dose of fifty million dead gonococci, had, several hours later, a decided general and local reaction, with rise of temperature to 103 F., rapid pulse, etc. At the site of inoculation, on the outer aspect of the right thigh, there was an intensely red area, the size of a silver dollar, with a prominent network of veins running upward from it. It was very sensitive on examination. This subsided in twenty-four hours, with the remarkable result that an exceedingly profuse and offensive vaginal discharge ceased in twenty-four hours and smears were negative. The discharge later recurred and has persisted. This was the only pronounced reaction we observed. The same child subsequently tolerated as large a dose without reaction.

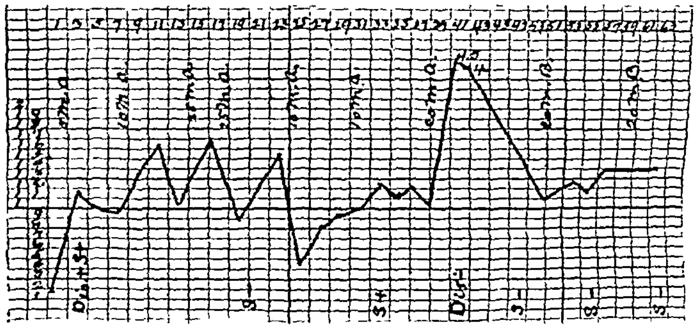

Chart 3.—Record of a patient apparently immune as the result of vaccine treatment

While a constitutional reaction seldom occurs, a local or stick reaction is almost the rule, not only in cases of gonococcus infection, but also in other cases of infections that are inoculated with the corresponding vaccine. The local reaction consists of an indurated, tender area at the site of inoculation, appearing in the first or second twenty-four hours. This varies in size, depending on the amount of vaccine used, from that of a dime to that of a silver dollar, or even larger. In the latter case the overlying skin may become red, presenting in some instances the appearance of a burn. These reactions correspond to the subcutaneous or stick tuberculin reaction. Vaccines might be used in this manner as a diagnostic recourse in various infections.

In regard to the dose of vaccine in gonococcus infection in children, we would say that doses up to 100 million, except in rare instances, do not seem to cause any general reaction, and we are inclined to think that larger doses would not do so. The most potent dose, from a therapeutic standpoint, is that which shows the best response in the patient's index, as the clinical improvement in a pure gonococcus infection often runs parallel to the index. This dose may be small or large and can only be determined by a study of the index.

We believe that this point will influence much the results of vaccine treatment, which can not be attained when the dose is given haphazardly, both as to quantity and time of administration. The time for inoculation is best determined by the fall in the immunity wave, as inoculation made at high tide often forces an index down, where it may remain two or three days or at least not rise to as high a point as at the time of inoculation.

Realizing, however, the impracticability of attempting to carry on extensive work in this direction, guided by a close index observation, which is only possible in specially equipped laboratories, with specially trained assistants, we would advise the use of vaccine therapy in cases, along lines that will be considered below. A slight experience in this direction revealed to us a wide difference in the results where the treatment is and is not controlled by the index.

In taking the index of patients for gonococcus it is our custom to compare the average phagocytic count of four healthy boys with that of the patients. It is desirable to take at least four cases for an average normal as the phagocytic count of healthy individuals may vary considerably. If the index is below normal, the indication for inoculation is, of course, given. As a rule, if the dose was a proper one, the index on the following day will show a rise, which may be slight or considerable. A gradual rise is usually maintained for a longer time than a very steep ascent, which latter may be followed by as sudden a drop. In either event, undulations may show in the immunity wave during the time it is responding to inoculation.

It is difficult to state how long a given dose of vaccine will maintain an index above normal, as this will often vary for the same dose, in the same patient. It is here that the value of controlling the injections of vaccine by the index impresses itself most, because a dose administered before the index has reached normal may hold it down for a few days. On an average, the inoculation requires repetition every fifth or sixth day, in our experience.

There seems to be no particular advantage in vaccine made up of mixed strains of gonococcus over that obtained from one strain. We have treated the greater number of our cases exclusively with a single strain of vaccine.

In taking up the cases treated we have divided them into acute and chronic, in so far as this is practical The acute cases represent those that have come to us in the first few weeks of their infection. It is not always possible to draw the line clinically where the acute gonorrhea ends and the chronic begins. We have classed under chronic cases those that have apparently had their infection for several weeks or longer before they were received for treatment. The discharge in some of the latter cases may have continued for months as profuse and thick as it was in the first week of the attack. It is not improbable that local treatment has much to do with this. Actual improvement frequently follows interruption of the local treatment, without resort to any other measures.

We treated twelve acute cases. Nine of these recovered, judging from a complete cessation of discharge, and at least three or four negative smears, taken from the vaginal mucosa, at intervals of three or four days. These cases were under treatment on an average forty-three days. The three cases that did not recover averaged thirty-eight days of treatment.

There were thirteen chronic cases. Of these eleven recovered after a period of treatment averaging 39 days. We had at least ten other cases under treatment but for too short a time to include in this work. One of these cases might merit special mention because it involved a child suffering from malnutrition. This patient died subsequently. The index was taken and inoculations made for a few weeks. At this time her general condition did not seem to contraindicate it. With one exception, when her index rose to 1.25 after inoculation, it remained below 0.7 throughout, notwithstanding repeated inoculations. This probably finds explanation in the slight reaction power of the organism in severe nutritional disturbances (Chart 2).

The acute cases while more intractable, apparently, than the chronic ones, show 73 per cent. of recoveries. The period of treatment averaged forty-three days, which is 10 per cent. longer time than that required for our chronic cases, 85 per cent. of which recovered. It is our custom to persist in the treatment until the result is accomplished or until we are convinced of its failure.

Patients who recover often remain from one to two weeks or longer in hospital after the discharge has disappeared because of the necessity for three or four negative smears before they are considered recovered, also because they can not always be disposed of at the end of the treatment. If allowance were made for this, the average period of treatment would be shortened.

In our first report on this subject we included a number of cases in which local treatment alone was used. The difference in results was so strikingly in favor of the vaccine therapy that we deem it unnecessary at this time to introduce further controls from this standpoint.

SERUM CASES.

We placed five cases, one acute and four chronic, on serum therapy. The acute case was kept on this treatment for seventy-two days, when the patient left the hospital still discharging and with positive smears. Of the chronic cases, one patient who had been under treatment 103 days, left the hospital with slight discharge, but with negative smears. Three other cases were under treatment without perceptible change in their condition for an average of eighty days. The serum used was prepared after the method used by Rogers and Torrey.

This comparatively small number of cases under serum therapy does not admit of much discussion as to its merit. However, the results were so uniformly negative that it may be said that in the cases treated, at least, it proved valueless.

One of the serum cases was treated by serum for 83 days, when there was still considerable discharge, and the serum treatment was stopped. The patient was given 50 million dead gonococci on March 21, 1898. On March 23, the discharge had stopped. March 31, a smear from the vagina was negative. The absence of discharge was interrupted by the appearance of a slight discharge up to May 11, since which time she has had none and four smears were negative.

It might be urged that the length of time this patient was under treatment would be sufficient for the discharge to disappear of itself and the process to come to a standstill, but the reaction to the first dose of vaccine was so pronounced that we are inclined to accept it as further evidence of the efficiency of vaccine therapy in this infection.

Another recurring chronic case that showed no change with serum therapy after 81 days treatment, cleared up under vaccine in the course of a month.

We have already indicated what was meant by recovery in these cases, namely, that the discharge disappeared and that we had from three to four negative smears the last few weeks the patient was under observation. As to what the ultimate result in these children will be, we are not in a position to state, for after leaving the hospital, we have no means of keeping track of them. One patient has remained in the venereal ward several months after recovery without the discharge reappearing, and with constant reports of negative smears. She seems not only to have recovered, but, considering her environment, to have become immune (Chart 3).

CONCLUSIONS.

In summarizing the results of our work it appears to us that in the treatment of gonorrhea in female children, gonococcus vaccine is more effective than local applications, which we think in some instances actually delay recovery. The vaccine treatment is not only effective, but in many cases, more particularly those of some standing, produces very rapid improvement, and often recovery. This does not, however, hold good in all chronic cases, nor in all acute cases, many of which require a prolonged course of inoculations. This latter point should be held in mind by those undertaking this work.

The most effective dosage of vaccine varies for different cases and at different times for the same case. This will be best determined by the patient's opsonic index to gonococcus. We have found doses varying from 5 to 50 million very satisfactory. Where inoculations are practiced without the index in the quantities mentioned, they should be given every fifth or sixth day. Doses up to a hundred million may be used without causing any general reaction on the part of the patient, except in rare cases. The larger doses do not seem to have been more effective on the immunity wave or clinical condition, than smaller doses.

There seems to be no particular advantage in a vaccine made from several strains of gonococcus over that made from a single strain.

Our experience with the serum treatment in gonorrhea in female children does not warrant recommending it in such cases.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. BUTLER AND LONG, AND CHURCHILL AND SOPER.

Dr. Arthur W. Fairbanks, Boston: I wish to ask Dr. Butler if he obtained his standard by taking the average of the indices of five healthy children? Every one must appreciate the importance of this work, especially in dealing with this difficult problem in the crowded conditions of our large cities and in institutions. I am sure that we would all like to know something of the technic of making the cultures. When Dr. Butler's first paper appeared I had two cases in one family where there were other as yet uninfected children. On applying to the only man then doing opsonic work in my city, he said he did not know how to make the cultures and did not believe they could be made.

Dr. R. B. Gilbert, Louisville: Does the doctor carry out any local treatment at the time of using the serum?

Dr. D. E. English, Millburn, N. J.: Does Dr. Butler base his injections on the opsonic index or on the clinical indications? How does he distinguish between relapses and reinfections?

Dr. A. C. Soper, Chicago: I will answer only the bacteriologic questions. The previous experience of Dr. Alice Hamilton was such that she came to the conclusion that it was not necessary to take the strain from the patient to be treated, but that any stock culture would do. Twice during the winter our stock culture was destroyed and we took the organism and cultivated it on blood-agar. It was easy to keep at 37° C.

Dr. Edwin E. Graham, Philadelphia: I would like to ask Dr. Butler on what he bases the frequency of the vaccine treatment, whether on the discharge or on the opsonic index.

Dr. C. F. Wahrer, Fort Madison, Iowa: Is such a serum or antitoxin now on the market and is it useful in acute as well as in chronic cases?

Dr. W. J. Butler, Chicago: I think the differences in time of treatment noted by Drs. Churchill and Soper are apparent only and would disappear if we would assume the same basis of estimating the day on which we considered our patients recovered in a similar number of cases. In our first publication on this subject we omitted in our charts many notations as to discharge and smears in order to avoid confusion. In Wright's laboratory young cultures are employed. Accurate standardizing of old cultures of many organisms is impracticable. I have used young cultures for vaccines, which were administered only according to index. In some of these cases the infection is probably a mixed one. In these circumstances the clinical improvement could not be expected to follow closely the immunity wave for gonococcus, and likewise the period of treatment would be drawn out. There seems to be some misunderstanding as to the difference between gonococcus vaccine and gonococcus serum. Gonococcus vaccine consists of cultures of the organism suspended in salt solution that have been killed and standardized. Gonococcus serum is obtained from the blood of an animal that has been immunized against the gonococcus. My results with the serum in vulvovaginitis have been failures. I believe that the best results in treatment by vaccine will be obtained if it is guided by the index.

Dr. F. S. Churchill, Chicago: We suspended local treatment entirely in all my cases. In some cases we used the index as an indication for injection; in others we took the length of time the discharge persisted. If after a bacteriologic examination we got a negative result, we waited a number of days and did not make an injection unless we got a positive result. I had no complications. In regard to the comparison of Dr. Butler's cases and ours, the main thing of importance is the period of time. The standard we adopted was to take the time from the period of the first injection up to the day of the first of four negative smears. We did the same thing in Dr. Butler's cases, taking the time in ten cases. The average length of time was forty-three days. That was the average length of time in the cases reported by Dr. Butler to-day, whereas that of Dr. Soper and my own was only nineteen days. The only difference in technic is in the age of the cultures. Furthermore, there is the experience of Dr. Alice Hamilton, who found that those with the fresher strains took a longer time for the discharge to disappear than did those with the old strains. It seems to me that the comparison is in favor of the older strains.

Dr. W. J. Butler: I used nothing else.

Dr. F. S. Churchill: But you say it is your custom to make a culture about six hours before you intend to use it.

Dr. W. J. Butler: True, but it is from an old strain that we have had for weeks.

HYDROTHERAPY IN SCARLATINA.

WITH ESPECIAL REFERENCE TO THE TUB BATH AT NINETY DEGREES FOR EARLY NERVOUS SYMPTOMS.*

D. S. HANSON, M.D.
CLEVELAND.

During an epidemic of scarlet fever in Cleveland and vicinity a few years ago, having treated 69 cases with 13 deaths, while a neighboring physician (a student of mine) treated 72 cases with a mortality of 12, making a death rate of about 16 per cent., I felt that I had hardly done my full duty to my patients and naturally studied for better methods of treatment, and after giving the full bath, in a manner to be described later, we were much gratified, both by the immediate and remote results, for sequelæ were conspicuous only by their absence.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

In looking through the literature of this subject no reference is made to a systematic use of this method under definite rules. Such statements as "we use the bath frequently," "we commonly use the bath at a temperature of 90 to 95 F. in high temperatures," is about all that is said regarding the procedure.

In the recently published work by Pfaundler and Schlaussman, the statement is made that "we do not employ the baths therapeutically, but give one on admission for cleansing purposes, and four to six at the end of convalescence for disinfection. In the interim the children are simply washed." However, their English translators make amends by stating that "warm baths at a temperature of 90 to 95 F. to reduce temperature and quiet restlessness are extensively used in practice."

The temperature of the bath has much to do with the results obtained, a bath too hot or too cold predisposes to depression and collapse in these acute cases, but when the temperature is at 90 to 95 F. the bath can be prolonged indefinitely without fear of any untoward effects.

Kuhn calls the bath neutral when at a temperature of 92 to 94 F. because at that temperature water is neither absorbed nor eliminated, while when the temperature of the water is higher, water is eliminated through the skin, and when lower the water is absorbed. Water being absorbed favors elimination by the kidneys, thereby, no doubt, contributing toward the avoidance of inflammatory changes of those organs later.

Absorption of water by the skin lessens nerve sensibility, as shown by the experiments of Kolliker, Hymen and Krebs, and the protection given to the central nervous system against reflex irritation by the neutral baths through its sedative influence can readily be demonstrated in this disease: furthermore, as the toxins are so largely located in the distended blood vessels of the skin, this absorption of water by this part of the body no doubt dilutes, neutralizes and eliminates it in no minor degree. Kellogg says, "the neutral bath is the most sedative of all hydriatic measures."

A bath at a temperature of 90 F. is accompanied by and followed with a decided lowering of the temperature of the skin, and greatly modifies heat production, and in order that the thermogenetic processes may not be interfered with seriously, it is necessary that the body be protected after coming out of the bath and not exposed to the atmosphere.

If a bath tub is at hand, the patient may be lowered into it lying on a sheet, and a rubber air pillow placed under the head is a convenience, but neither are a necessity, and my patients have invariably been bathed in an ordinary wash tub, such a luxury as a bath tub not being at hand.

I wish especially to emphasize the early use of the bath, for in these severe nervous cases changes go on very rapidly in the central nervous system. For example, I recently treated a case of cerebrospinal meningitis in which fibrin and pus were present in the cerebrospinal fluid within twenty-one hours from the beginning of the attack, and changes in the foudroyant type of scarlatina are often equally severe and rapid.

In the toxic type with high fever, intense rash, great restlessness, often with double rash, rapid respiration and pulse, often beginning with convulsions and great mental depression, later often with cold extremities and cyanosis, even cases occur in which toxemia is intense, with little or no elevation of temperature, but with marked depression of the nervous system, manifested by delirium, somnolence, apathy or unconsciousness.

It is in the early stages of these severe toxic cases, where the happy effects of this line of treatment can most frequently be seen, although in cases with high temperature where these severe nervous symptoms are not present, the benefits to be obtained are nearly as striking and will do more good than any other single measure.

The method I have used with the most satisfaction is with the water at a temperature of 90 F., each bath lasting from five to ten minutes, with very gentle friction to the body surface while in the bath, the bath to be repeated sufficiently often to control temperature and symptoms. Sometimes it has been necessary to do this as often as every two or four hours for three or four days.

In the epidemic above referred to several cases were lost by not correctly interpreting the early symptoms in which this treatment would have doubtless been ideal had it been put into practice sufficiently early. For example.

CASE 1.—B., aged 17, a beautiful, vigorous, active girl, whose brother had just had a very severe attack, was greatly exhausted nursing him day and night immediately prior to the time she became ill. I first saw her in the evening, temperature 101 F., slight pharyngitis and rash just beginning to appear, the case having the appearance of a mild attack. The following morning the rectal temperature was 106 F., patient pulseless and in collapse, death following in two or three hours.

CASE 2.—E. R., aged 4 years. I first visited him in the evening, his condition being very similar to that of Case 1, the case seemingly being a very mild one. The parents were ignorant, irresponsible people, unable to recognize any unfavorable changes, hence failed to call me when the boy grew rapidly worse in the night. He died in convulsions before my arrival the next morning. This would have been an ideal case for the bath, but again mild symptoms in the beginning offered false security, and were misleading.

I wish to report three cases each of a different type illustrative of what the bath used in this way will really do, also one of equal severity treated in an entirely different manner, showing that no single method of cure is the only procedure.

CASE 1.—E. W., aged 5 years. The case was ushered in by a convulsion, vomiting and diarrhea, the convulsion was immediately followed by somnolence and muttering delirium, temperature very high, and rash beginning to show on neck and chest. The bath was immediately given, and the child conversed intelligently with her father before being removed from the tub. The tubbing was continued as indicated by restlessness and elevation of temperature for three or four days, resulting in a good recovery and no sequelæ.

CASE 2.—E. H., aged 3½ years, seen the second day of an attack that was of apparently no great severity (rectal temperature not above 102 F. at any time) and rash well out with a pharyngitis of moderate severity, kidneys normal. Her father telephoned that the child seemed disturbed mentally, that she did not seem to understand what was said to her and was delirious. On my arrival, a half hour later, she was apathetic, muscles of face twitching, she could not be aroused from stupor and was constantly muttering. The bath had as happy an effect as in the last case, the nervous symptoms disappearing like magic. This case illustrates the benefit to be derived in nervous depression when not dependent on high temperature and must have produced such marked results in some way independent of its effects on the temperature.

The third case was treated by a neighboring physician, who had read a paper I had written on this subject, and followed the plan outlined in the treatment of a very severe case in which the rash appeared very late and was preceded by unusual and severe symptoms. The doctor wrote me as follows:

Case 3.—April 17, 1899, I was called at 2 p. m. to see M. S., aged 6 years, who had been taken sick suddenly. She appeared in her normal health that morning. Her temperature was 104 F.; she was very restless and tossing over the bed. She had vomited several times. She was in a condition of stupor and it was very difficult to get her to answer my questions. Scarlet fever was suspected, although there were no throat symptoms, neither was there any rash to be seen. Vigorous treatment by drugs was instituted, and an early call was promised the next morning. Her condition next morning was worse every way. The temperature was 106 F.; the stupor was so profound that she could not be aroused in the least; water put into her mouth with a spoon was not swallowed, but ran out as in a cadaver. It was impossible to give medicine by the mouth. The throat was beginning to look red, but there was no sign of a rash. An unfavorable prognosis was given the parents, and the tub bath was recommended as the only treatment. The recommendation was accepted and the treatment immediately begun. A bath at the temperature of 90 F. was used, with plenty of cold water poured on the head while in the bath. The duration of the bath was fifteen minutes, and was continued every two hours day and night. There was no change the first day, except that the temperature was reduced to and held at 103 F. After twenty-four hours' bathing the condition of stupor was much improved. She was now conscious of her surroundings and resisted when put into the bath. She also drank water and a little milk.

A little medicine was given from now on, but the baths were yet continued day and night. By the fourth day the rash began to appear and was very profuse two or three days later. The throat symptoms were also very severe. The stupor and restlessness soon disappeared and the progress of the case was in every way satisfactory. There were no sequels of any kind, except five or six abscesses which developed during the period of convalescence. I can but repeat the doctor's words. "No other treatment that I know of would have given such results in so severe a case."

Pfaundler and Schlossman report the case of a child, 4 years of age. The history was as follows: In the evening sudden emesis and diarrhea; fever; rash next morning; numerous light green fetid stools containing mucus; afternoon, stupor, delirium; evening, sent to hospital as meningitis. Temperature 103.3 F.; pulse, 150; pronounced cyanosis of extremities, stupor, twitching of the muscles of face, strabismus, chewing movements, unequal innervation of the facial nerves, jactitations, hyperesthesia, conjunctivitis, small macular, bright red rash irregularly spread. Slight pharyngeal involvement, nose clear; 200 c.c. Moser serum given 24 hours after onset. During the night the irritative nervous symptoms vanished, temperature dropped; next day no fever, pulse 100, convalescence uncomplicated. Surely a result that compares favorably with any result heretofore obtained by any method of treatment, but unfortunately the use of this serum does not usually produce such striking results.

ABSTRACT OF DISCUSSION.

Dr. R. B. Gilbert, Louisville, Ky.: The hydrotherapy treatment in scarlet fever has this objection: When one is dealing with a spoiled child, 5 or 6 years old, nervous and irritable, the attempt to put him into a hot bath may result in a fright. I do not think that the hot bath eliminates any of the toxic effects of the disease, but that the toxicity persists and the disease is self-limiting. In cases in which it is impracticable or not acceptable to the parents to plunge a child into a hot bath or to use all the water we wish, I have been in the habit of using high colon irrigation of normal salt solution, using a pint or a quart each day, or whenever the temperature goes beyond 103. I still use the old-fashioned method of inunction. It prevents, at least, the itching and irritability of the skin, and I have often seen it reduce the temperature.

Dr. C. A. Earl, Desplaines, Ill.: I have been for eighteen years the attending physician at an institution where 500 boys are kept. In the treatment of all the infectious diseases, particularly of pneumonia, this is the only therapeutic agent employed in a vast majority of cases. While I do not maintain that baths lessen the duration or mortality, I do know that they conduce to the comfort of the patient. I have again and again seen a boy with a high fever made comfortable by a five to ten-minute bath in a tub full of lukewarm water.

Dr. D. S. Hanson, Cleveland: I have no doubt the colonic flushings would be beneficial, but I have the idea that the child would have more objections to it than to the bath. I have never encountered any objection to the bath.

CHARACTER OF THE STOOLS, WITH REFERENCE TO THE INTESTINAL FINDINGS IN THE DIARRHEAL AFFECTIONS OF INFANTS.*

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BALTIMORE.

One of the most important matters for the physician to determine when called to attend an infant suffering from a diarrheal disorder is the probable condition of the intestinal tract. Are the symptoms produced by a gastrointestinal intoxication with little or no alteration in the intestinal wall, is the mucosa of the bowel congested, infiltrated or thickened, or is there a definite loss of substance, ulceration? Moreover, if there is a lesion, what is its situation in the course of the alimentary canal? These are questions on the answer to which depends the intelligent treatment of the patient.

In the preparation of this paper the autopsy records of 100 fatal cases, covering a number of years, at the Thomas Wilson Sanitarium have been reviewed, and the actual condition of the small and large intestine noted in each case, together with the character of the stools as indicated in the clinical history.

It is customary at the sanitarium, every morning before clinical rounds, to inspect and describe the last stools from each baby, and to make a note of their character on the history sheet. In this way a large number of records are available which indicate the general gross appearance of the discharges. In this paper no use will be made of the results of microscopic examinations of the stools which were carried on in many instances, nor of the bacteriologic investigations, but attention is directed only to the macroscopic character of the discharges, as it is on inspection of this kind that the physician is called on to decide the intestinal condition. The chemistry of the stools, their reaction, the presence and nature of curds are also not discussed, as this would lead too far afield.

Detailed description of the dejecta is not necessary and would involve much repetition. The large majority of the patients were suffering from diarrhea, the number of stools varying from 6 to 30 in 24 hours. There was almost without exception an abnormal amount of mucus in the movements, and they usually had a green or yellowish green color. The presence of and amount of three elements, mucus, blood and pus, in sufficient quantity to be noticed by the naked eye or the macroscopic absence of these materials, have been taken as offering the simplest indications as to the character of the stools. The contents of the dejecta in regard to these elements during the course of the disease as observed at the sanitarium, and occasionally, where the patient's description could be relied on, at the homes, have been tabulated in respect to the condition of the small and large bowel as discovered at autopsy.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Mucus.—The findings in respect to mucus are shown in Table 1.

TABLE 1

Mucus	Number of cases	Small Intestine: Pale or normal	Small Intestine: Congested with or occasional hemorrhagic areas	Small Intestine: Thickened or infiltrated mucosa	Small Intestine: Ulcerated mucosa	Large Intestine: Pale or normal	Large Intestine: Congested with or occasional hemorrhagic areas	Large Intestine: Thickened or infiltrated mucosa	Large Intestine: Ulcerated mucosa
Absent	7	5	2	0	0	5	2	0	0
Moderate Amount	16	6	6	1	3	6	6	4	1
Large Amount	37	11	13	3	10	9	9	11	8
Most of stools mucus . .	40	5	15	8	12	4	9	16	11
	100	27	36	12	25	24	26	31	19

Table 1 indicates that when there is no excess of mucus in an infant's stool so as to be readily detected by the naked eye, it is quite certain that the baby has no thickening or ulceration along the intestinal tract and that the only alteration from normal at all likely to occur is a moderate amount of congestion. These changes, with or without small scattered areas of hemorrhage into the mucosa, are more frequent when a small quantity of mucus is present, although with stools of this character there may very rarely be infiltration and ulceration of the small bowel, and thickening of the mucosa of the colon.

As the amount of mucus becomes greater the proportion of cases having more serious involvement of the intestinal mucosa increases. Thus of the 37 cases in which mucus was present in large quantity, 13 had a thickened or ulcerated small bowel, and 19 the same condition of the large intestine, whereas in the 40 babies having stools nearly all mucus, one-half had serious lesions in the ileum and 27, or 67 per cent., either infiltration or ulceration of the large intestine. It is to be emphasized, however, that a mucus stool containing large quantities of mucus is quite consistent with an unaltered intestinal tract. The only inferences that can be properly drawn from a consideration of the mucus alone in diarrheal stools is that its absence or presence in small quantities practically precludes a serious intestinal lesion and that when it is present in a larger quantity there may be such a lesion in about one-half of the cases, and that the alteration is somewhat more apt to involve the large than the small bowel.

Blood.—Table 2 represents the findings in respect to blood.

Blood was present macroscopically in the stools of 35 per cent. of the cases. In these infants the small intestine was pale or normal in but two instances, the large bowel normal in but one case. Thus the appearance of blood in the discharges indicates that there is a pathologic lesion in the intestinal mucosa. Moreover, the amount of blood in the stools often bears a definite relationship to the extent of the bowel change. The occasional presence of a fleck of blood is just as apt to occur with a congested small intestine as when it is the seat of a more severe lesion; whereas, as far as the large bowel is concerned, the occurrence of even a minute quantity of blood suggests a more serious alteration.

TABLE 2

Blood	Number of cases	Small Intestine: Pale or normal	Small Intestine: Congested with or occasional hemorrhagic areas	Small Intestine: Thickened or infiltrated mucosa	Small Intestine: Ulcerated mucosa	Large Intestine: Pale or normal	Large Intestine: Congested with or occasional hemorrhagic areas	Large Intestine: Thickened or infiltrated mucosa	Large Intestine: Ulcerated mucosa
Absent	65	25	24	4	12	23	2	16	5
Occasional fleck	18	1	10	4	3	1	3	11	3
Frequent blood stain .	11	1	1	4	5	0	1	4	6
Considerable amt of blood	4	0	1	0	3	0	0	0	4
Hemorrhage	2	0	0	0	2	0	1	0	1
	100	27	36	12	25	24	26	31	19

Larger quantities of blood indicate, with but few exceptions, an infiltrated and roughened or an ulcerated mucosa, usually of both the small and large intestine. In the instances in which the amount was described as considerable or when there was definite hemorrhage, definite ulceration usually of both small and large bowel was found at autopsy. On the other hand, the large number of cases in which no blood was detected on careful naked eye inspection, where changes in the mucosa were found at autopsy, is notable. Thus, among the 65 cases in which no blood was present in the stools, the mucous membrane of the small intestine was thickened or ulcerated in 16 instances, and in five additional cases the large bowel was in like manner involved. Ulceration of the large intestine is less apt to escape detection than that of the small: thus, there were but 5 cases of ulcerated large bowel among the 65 instances showing no blood in the stools, whereas there were 12 cases among this number in which at autopsy there was some definite loss of substance in the small intestine.

One may infer, therefore, that the presence of macroscopic blood in the dejecta of infants passing diarrheal stools indicates an infiltrated or ulcerated intestinal mucosa, less often simply congestion with or without hemorrhagic areas, but that the absence of blood to naked eye examination does not preclude the possibility of serious intestinal lesion. It is, perhaps, unnecessary to state that no case is included in this summary in which blood or pus in stools could have come from anal fissure, eczema of buttock or other external source.

TABLE 3

Pus	Number of cases	Small Intestine: Pale or normal	Small Intestine: Congested with or occasional hemorrhagic areas	Small Intestine: Thickened	Small Intestine: Ulcerated	Large Intestine: Pale or normal	Large Intestine: Congested with or occasional hemorrhagic areas	Large Intestine: Thickened	Large Intestine: Ulcerated
Absent	73	26	27	5	15	23	24	19	7
Occasional grayish stools	15	1	4	5	5	0	3	9	3
Frequent gray mucous stools.. .	8	0	4	2	2	0	0	3	5
Large amount of purulent material	4	0	1	0	3	0	0	0	4
	100	27	36	12	25	23	27	31	19

Pus.—Our findings in respect to presence or absence of pus in the movements is shown in Table 3. Pus is more difficult to detect with the naked eye than blood, and hence the failure to note its presence in 73 out of 100 cases is not surprising. The definite appearance of pus in sufficient quantity to be recognized macroscopically is significant, as the table indicates. Thus pus was described in connection with 27 cases. In but one of these was the small bowel found to be normal, and in this one the mucous membrane of the large bowel was infiltrated and thickened.

The intimate relationship between the presence of pus in the dejecta and the considerable involvement particularly of the large intestine is noteworthy. Thus, among the 27 cases in which some purulent material was present in the dejecta, in 12 the mucosa of the colon was thickened and rough, and in 12 others there was definite ulceration. All 4 cases in which the stools contained large amounts of purulent material were extensively ulcerated. In 20 cases no pus was noted in which at autopsy the small intestine was found to be infiltrated or ulcerated. In 6 additional cases similar changes in the large intestine gave rise to stools free from macroscopic pus. It is likely that most of the leucocytes accumulated in the intestinal lumen are soon disintegrated and so escape attention in the stools.

The absence, therefore, of purulent material in the dejecta of these infants does not indicate freedom from intestinal lesion, but, on the other hand, the presence of pus suggests that the intestinal mucosa is considerably involved.

In order to determine whether the age of the patient bore any relationship to the frequency and amount of blood and pus appearing in the dejecta, tables have been prepared in which the cases have been divided into various age periods as follows: (1) Up to one month; (2) from 2 to 3 months inclusive: (3) from 4 to 6 months inclusive; (4) from 7 to 12 months inclusive, and (5) those over 12 months.

TABLE 4.

BLOOD.

Age.	Total Cases.	Absent.	Occasional Fleck.	Frequent Blood Stain.	Considerable Am'nt.	Hemorrhage.	Per Cent. of Cases with Blood.
1 mo.....	6	5	1	0	0	0	17
2 to 3 mo.....	18	14	3	1	0	0	22
4 to 6 mo.....	42	28	7	5	1	1	33
7 to 12 mo.....	27	14	7	3	2	1	48
12 mo +...	7	4	0	2	1	0	43
	100	65	18	11	4	2	

TABLE 5.

PUS.

Age.	Total cases.	Absent.	Occasional grayish stool.	Frequent gray stools.	Large am'nt of purulent material.	Percentage of cases with pus.
1 mo......	6	6	0	0	0	0
2 to 3 mo......	18	16	1	1	0	22
4 to 6 mo......	42	31	6	4	1	26
7 to 12 mo......	27	16	6	3	2	40
12 mo......	7	4	2	0	1	43
	100	73	15	8	4	

It would appear, therefore, that the presence of blood and pus is noted in a larger proportion of cases after the early months of infancy, and therefore the detection of these elements after the sixth month is a somewhat more reliable indication of the intestinal condition than it is earlier.

This deduction is further strengthened by a tabulation (Table 6) in the same age periods of the cases which showed no blood at any time in the stools but in which definite intestinal ulceration was found at autopsy.

TABLE 6.

1 mo.	2 out of 6	33 per cent.
2 to 3 mo.	4 out of 18	22 per cent.
4 to 6 mo.	6 out of 42	14 per cent.
7 to 12 mo.	3 out of 27	11 per cent.
12 mo.	1 out of 7	14 per cent.

The presence of blood and pus in the stools is affected also by the duration of the intestinal disease. This is indicated in tabulations (Tables 7 and 8) of the cases in regard to blood and pus according to the length of time in measured periods from the beginning of symptoms until the fatal termination.

TABLE 7.

BLOOD.

Duration of illness in days.	Total cases.	Absent.	Occasional fleck.	Frequent bloody stools.	Considerable amount.	Hemorrhage.	Per cent. with blood.
1 to 7	7	5	2	0	0	0	26
7 to 14	26	19	4	2	1	0	27
15 to 30	21	9	6	2	3	1	57
30 to 60	34	20	6	7	0	1	41
60	12	12	0	0	0	0	0
	100	65	18	4	4	2	

TABLE 8.

PUS.

Duration of illness. in days.	Total cases.	Absent.	Occasional Gray Stool.	Frequent Gray Stool.	Large Amount Purulent Material.	Per Cent. with pus.
1 to 7	7	7	0	0	0	0
7 to 14	26	20	3	3	0	23
15 to 30	21	11	2	4	4	48
30 to 60	34	23	10	1	0	36
60	12	12	0	0	0	0
	100	73	15	8	4	

These tables suggest that blood infrequently and pus very rarely appear macroscopically in the diarrheal stools until after the first week of illness, that the proportion of cases having these elements in the dejecta increases up to the fourth week and then declines, and that the blood and pus are less often found after the second month. At this time, if the patient survives, it passes into the marantic type, in which the condition of the intestinal tract becomes of secondary importance to the profound changes in metabolism that have been set up in all the tissues of the body.

These tables suggest also that frequently blood and pus appear in the same case, often in the same stool. A closer examination shows that of 37 cases having blood or pus in the discharges, in 26 blood and pus were noted together, in 10 blood was present without pus, and in but one case pus was noted without blood.

A final summary has been made (Table 9) indicating the condition of the mucosa of the small and large intestines in the cases showing blood and pus, blood alone or pus alone, respectively.

TABLE 9.

SMALL INTESTINE.

	Normal.	Congested or Hem. Areas.	Thickened or Infiltrated.	Ulcerated	Per Cent. of Altered Intestine.
Cases with blood and pus 26 cases.	1	9	6	10	58
Cases with blood alone... 10	1	3	3	3	60
Cases with pus alone.... 1	0	0	1	0	100

LARGE INTESTINE.

	Normal.	Congested or Hem. Areas.	Thickened or Infiltrated.	Ulcerated	Per Cent. of Altered Intestine.
Cases with blood and pus 26	0	3	11	12	90
Cases with blood alone... 10	1	2	5	2	7
Cases with pus alone.... 1	0	0	1	0	100

It may be concluded, therefore, that blood, and more especially blood and pus, appearing to the naked eye in the stools of infants suffering from diarrheal disorder are usually significant of definite intestinal lesions.

SUMMARY.

1. Mucus is evident to the naked eye in a large percentage of diarrheal stools of infancy. Its absence renders the presence of serious intestinal lesion improbable. Mucus in large amounts may be found in the stools in all intestinal disorders, but the proportion of cases with extensive intestinal alteration is greater when the quantity of mucus is in considerable excess.

2. The appearance of blood in the diarrheal dejecta of infants suggests an alteration of the intestinal mucosa in proportion to the amount of blood present. On the other hand, extensive changes may occur in the bowel wall without the macroscopic presence of blood in the discharges.

3. In like manner the presence of pus in the diarreal stools of infants indicates, according to its quantity, alteration in the mucosa, particularly in that of the large bowel. The failure, however, to detect pus in the stools with the naked eye does not preclude the possibility of extensive intestinal lesion.

4. Blood and pus are more frequently found in diarrheal movements in the middle half of infancy, and these elements at this time form a correspondingly more reliable index of the conditions of intestinal mucosa.

5. Blood and pus rarely appear in the diarrheal discharges of infants before the beginning of the second week of their illness. They are more frequently found from the third to the sixth or eighth week, and are usually absent after this period, when the illness, if it continues, may asume a marantic character.

6. Blood and pus are often found mingled in the same stool. Less often blood appears alone, and still less frequently is pus noted in the dejecta of infants who have not passed blood. The presence of these elements indicates the probability of thickening and infiltration or of ulceration of the mucosa of the small, but more certainly of the large intestine.

ABSTRACT OF DISCUSSION.

Dr. J. A. Work, Elkhart, Ind.: Dr. Knox has described a pathologic condition: the etiology of the condition was not mentioned. But there is a cause prior to this condition, and what we are most interested in is the cause, and how to avert the condition, when possible. When there is ulceration there is a fermentation and a decomposition of the contents of the bowel. What is the cause of this fermentation and decomposition? It is either the quality or quantity of the ingesta. Infant feeding is one of the most difficult problems we have to solve. If we can secure the proper food, pure, natural food—and as Dr. Knox has suggested, the mother's milk is the best food—the problem is not so hard. If the infant can not have this natural food, the next best thing at our command is pure cow's milk. If we have a healthy cow, we can have pure milk: if not, we can not have it. We should handle the milk as little as possible. The mother's milk is taken directly by the child. That is the natural feeding. Now, if we can take the milk directly from the cow to the child, that is the next best to natural feeding. My plan is to milk from the udder directly into a bottle containing enough for the child to take at a feeding, cork it at the stable, and have a bottle for each feeding; to place the bottles in a cool place until they are needed, and then to put the bottle required in warm water until the milk reaches the proper temperature. By using pure milk at proper intervals, the proper quantity taken slowly, the child will not have the conditions so well described.

Dr. T. W. Kilmer, New York: We usually do not hear enough in regard to the pathologic findings in these cases. A baby has a diarrhea and very few of us look at the stools and examine them for blood or mucus. We can determine much without a microscopic examination. The second important point is the fact that babies do die from diarrhea, with absolutely no pathologic condition in the intestine. We have been teaching that in New York, for quite a while; and it is hard to make students understand the fact that babies do die from diarrheal conditions with absolutely nothing the matter with their intestines. These babies are poisoned and that is all. I am glad that Dr. Knox brought out that point.

Dr. C. G. Kerley, New York: My experience in a great many autopsies on infants and young children dying with intestinal diseases has impressed on me the fact that the character of the stools furnishes us with very indifferent evidence as to the nature of the lesion within. I recall cases in which the ulceration extended through the mucous membrane and through to the peritoneal coat, but macroscopically, blood was not to be observed in the stools. In other cases I have seen quite an extensive hemorrhage occur in which the autopsy would show but a slight congestion of the intestinal mucous membrane. There is a class of cases of the membranous type that Dr. Knox does not mention. In membranous colitis we may have normal stools with a fatal result. The child will have a high temperature and die of autointoxication, yet at all times there will be an apparently normal stool.

Dr. J. H. Mason Knox, Baltimore: The cases forming the basis of this paper were 100 fatal cases coming to autopsy, selected over a period of five years, from the records of a sanitarium located about ten miles distant from Baltimore, for the treatment of intestinal diseases in infants. The children were all under 18 months of age, all had diarrhea, and the amount of mucus and blood and pus were as I have stated. In perhaps 20 per cent. of the cases the dysentery organism was present, but with one or two exceptions none were of the membranous type. We find that exceedingly rarely. I do not want to discuss the various types, but simply to take the findings from the inspection of the stools.

A NEW SIGN FOR THE DETECTION OF MALINGERING AND FUNCTIONAL PARESIS OF THE LOWER EXTREMITIES.

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In The Journal, Aug. 29, 1908, appeared an article by Dr. C. F. Hoover, Cleveland, with the above title. The sign is based on the following facts: If a normal individual, lying on a couch, in the dorsal position with legs extended, lifts one foot, the heel of the other foot always digs into the couch. This complemental opposition, as Hoover terms it, is felt by placing the hand under the tendo Achilles. In case of paralysis of one leg, due to a pathologic lesion, if the patient attempt to lift the paralyzed foot, there is the same complemental opposition and the heel of the sound side digs into the couch. If the patient lifts the sound foot the complemental opposition of the paralyzed limb will depend on its strength: there will be no movement whatever if that limb be completely paralyzed. Just the opposite takes place in case the paralysis of the leg is hysterical or simulated. If the patient be told to lift the paralyzed leg, or to make a great effort to do so, there will be no movement of the paralyzed limb (provided the paralyses seems to be complete) nor any complemental opposition of the sound one. If, however, the sound limb is lifted, complemental opposition is exhibited in the paralyzed limb and the heel digs into the couch.

This sign is certainly a valuable one. It seems surprising that, simple and easy to elicit as it is, it was not described long ago.

Anyone can quickly satisfy himself of the presence of this reaction in normal individuals. I wish here to report the results of the examination in two notable cases of paralysis.

The first case, one of great interest, is that of a young man, 20 years of age, who had a tumor of the pons. The first symptom to appear was paralysis of the left external rectus muscle, which was soon followed by paralysis of the right arm and leg, and in the course of three months, before the fatal termination, nearly every voluntary muscle of the body became paralyzed.

The examination for the sign under consideration was made on the patient at a time when the right leg was absolutely paralyzed, while the left one was apparently normal. When he lifted the left, the sound leg, there was not the least movement of the other; but when he was told to try to lift the paralyzed leg, while it did not move in the least, the heel of the other foot dug into the bed.

The second case is that of a married woman of 28, with hysterical hemiplegia. She had suffered for a number of years with pain in the abdomen, on account of which a year ago a cystic ovary was removed, and again a month ago an exploratory operation was made, and the appendix removed. Several weeks after the latter operation, when this patient was convalescent and feeling very well, another patient, who had just been operated on and on whom some blood could be seen, was brought into her room. The sight of blood had always affected the patient. She says she did not feel ill at the time but that one-half hour later she became suddenly blind (a transient condition), then the right arm and leg trembled greatly, and later were paralyzed.

I saw her four days subsequently. She presented a right hemiplegia and hemianesthesia. The right arm and leg were completely paralyzed, not the least movement being manifested. The face was not paralyzed. On the same side there was loss also of all qualities of sensation, tactile, pain, temperature and muscular sense. On the face and trunk the anesthesia extended exactly to the median line. There was blindness of the right eye, deafness of the right ear and loss of smell of the right nostril. The sense of taste was not carefully tested.

When this patient was told to lift the right, the paralyzed leg, or at least to make every effort to do so, there was no movement whatever either of that leg or of the other; but when she lifted the sound leg the heel of the paralyzed one dug into the bed.

My purpose in making this report is to speak of the mode of examination. I stated that when the second patient lifted the sound leg the heel of the paralyzed one always dug into the bed. Yet this movement was not very pronounced. In fact, it was so slight that I could not help questioning whether the movement of the right heel was not because the lifting of the sound leg shook the bed and mattress, or caused a movement of the trunk, which was transmitted to the paralyzed leg. Further examination quickly removed this doubt. When the hand was placed under the right thigh, just above the knee, and the sound leg was lifted, the biceps and semitendinosus and semimembranosus of the paralyzed leg were felt to contract forcibly. Further examinations have satisfied me that this mode of examination brings out this sign more clearly.

It would appear that in cases like the two I reported —one leg completely paralyzed, the other normal—this sign should positively determine whether the paralysis were due to a pathologic lesion, or were either hysterical or simulated.* But in case the affected limb is not completely paralyzed so that it not only has the power of movement but also shows some complemental opposition, even in hysterical cases, the sign must be of far less value. Here the question would be whether the complemental opposition is as strong as it should be, a question which would be difficult to answer and would often lead to error.

Hoover says in his article that the movements may be carried out in the reverse order; that if a normal person press one leg against the couch there will be a counter lifting force exhibited in the other. I tested for this sign in a number of instances, in both normal and paralyzed individuals, watching the movement of the foot on the counter-lifting side, but failed to observe any movement in nearly every instance. A number of other physicians told me that they also had failed in this test.

After my observations in the case of hysterical hemiplegia, I again made the test, observing the uncovered thigh, or feeling for contractions of the thigh muscles. I was now able to see evidence of this counter-lifting force in every case. Those examined were normal individuals and hemiplegics, who had some power in the paralyzed leg. Some movement could be seen in the thigh, and different muscles were felt to contract, the adductor longus, parts of the quadriceps, and even the flexors of the knees, the results not being alike in various individuals. This pressing the leg against the couch is not so simple an action as lifting the foot, and doubtless is somewhat differently executed by different individuals —that is, as to the group of muscles brought into play and the comparative force of their contractions. For this reason the manifestations in the counter-lifting force vary in different individuals. It may be that this sign, that of the counter-lifting force, will prove of special service in some cases.

PERFORATIVE APPENDICITIS COMPLICATING PREGNANCY.

WITH REPORT OF A SUCCESSFUL CASE.

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Experience corroborates the contention that perforative appendicitis is one of the most grave and, fortunately, one of the most infrequent complications of pregnancy with which the surgeon has to deal. That a dissemination of our present-day knowledge of the complication is needed is exemplified by the high mortality and the frequency with which the autopsy findings bring the first intimation of the true cause of the clinical picture. A sufficient number of cases of appendicitis complicating pregnancy has been reported to enable us to draw important conclusions for our future guidance. At present our object is to briefly present these findings and to report a successful case in point.

HISTORICAL DATA.

Hancock,[1] in 1848, reported the first clear case of appendicitis complicating pregnancy. Ten days after a premature delivery Hancock incised a perityphlitic abscess. The patient recovered. In 1885 Korn.[2] and in 1888 Müller,[3] cited a case in which the autopsy showed death due to a perforated appendix. Wiggins,[4] in 1892, reported the first case in which the diagnosis was made and an operation advised at a time when the life of both mother and infant could have been saved. Unfortunately, the patient's friends refused the only hope. In 1894 Munde[5] tabulated the first successful American case. In the same year Hirst[6] reported a perforative case treated surgically before premature birth had occurred. The patient had general peritonitis. Patient went to term and was delivered of a living infant. Our active knowledge concerning appendicitis complicating pregnancy dates from Wiggins' monograph.

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*There is the possibility that a malingerer, familiar with the test, might inhibit the complemental opposition of the apparently paralyzed leg, but care on the part of the physician should ward off even this source of error.

[1] Lancet, 1848, ii, 381.

FREQUENCY OF CONDITION.

Up to the present time it has not been possible to estimate accurately the frequency of appendicitis during pregnancy; since many of the simple cases are not recognized, and many others are not reported. In 1902 Rosner found 22 cases of appendicitis in fifteen hundred pregnancies. In 1905 von Oordt stated that he had observed the complication in only three of the 10,000 pregnancies at the Rotterdam Maternity. In a thorough, painstaking review of the literature I have been able to collect 235 cases of appendicitis complicating pregnancy, labor and the puerperium. Of the 207 cases occurring during pregnancy, 103 were of the perforative or gangrenous, and 104 of the non-perforative variety. The seemingly greater frequency of the perforative form is partially explained by the fact that they are more often recognized than the non-perforative variety. I am confident that appendicitis complicates pregnancy with greater frequency than the reported cases would tend to lead us to believe.

ETIOLOGY.

The etiology of appendicitis complicating pregnancy differs very little, perhaps, from that of appendicitis in the non-pregnant. I believe that pregnancy does, at times, precipitate an acute exacerbation in those cases in which the appendix is bound down by dense adhesion, or contains a fecal concretion, or in which the mesentery of the appendix is abnormally short and pressed upon by the pregnant uterus. I can not reconcile myself to the thought that pregnancy predisposes to primary attacks of appendicitis. If pregnancy was a predisposing factor, many more cases would be reported than is at present the case.

PATHOLOGY.

I have been forcibly impressed with finding that in 75.7 per cent. of the cases the complication occurred after the third month of pregnancy. As previously stated, in more than 44.6 per cent. of the collected cases perforation occurred. McArthur[7] held that after the third month of gestation a portion of the wall of an appendiceal abscess is usually formed by a part of the right wall of the uterus. Waldeyer, Futh and others observed that the pregnant uterus pushes the cecum upward and backward, so that if appendicitis develops it is more dangerous in the later than in the earlier months of gestation. I have been surprised to find how rarely portal infection follows development of an appendiceal abscess. In one of Oidtman's[8] cases a subphrenic abscess developed after the opening of an ileo-inguinal abscess. In my own case a left femoral phlebitis developed four weeks after incising a large appendiceal abscess. Jewett's[9] patient recovered after the spontaneous evacuation of a quantity of very offensive pus by rectum. Hlawacek[10] and Semb[11] cited cases in which pus was found in the tubes and uterus at autopsy. Rostowzew[12] has mentioned that infection reaches the uterus in three ways:

1. Through the peritoneum in case of diffuse peritonitis.
2. Through the lymph and blood vessels in the appendiculo-ovarian ligament.
3. Through the adhesions between the abscess wall and the generative organs.

Heaton[13] held that abortion must occur in all cases where the pregnant uterus forms a part of the abscess wall. Koenig[14] found that when the uterus formed part of the wall of a periappendicular abscess, expulsion of the fetus and sudden contraction of the uterus is almost invariably followed by rupture of the abscess. Betts[15] cites a very interesting case, in which a pelvic mass obstructed the delivery of the infant. Cesarean section was performed, and the cause of the obstruction was found to be an appendicular abscess. Cases have been reported in which the dense adhesions between the uterus and appendicular tissues interfered with the normal contraction of the uterus.

SYMPTOMS.

In my case the clinical picture was not clouded by the pregnancy. The sudden onset, the fever, the character and site of the pain, the marked tenderness, the vomiting, and the picture in general differs very little from that of appendicitis in the non-pregnant.

DIAGNOSIS.

A careful consideration of the previous history and of the mode of onset of the present attack, combined with a thorough examination, will usually eliminate error. Webster has very fittingly said that before a diagnosis of appendicitis is made, we should bear in mind the possibility of ureteritis and pyelitis. Frankenthal found that blood in the urine could be due to an appendix in relation with the ureter.

In pyelitis the lumbar pain, the frequent micturition, the pus in the urine, the daily chill followed by high temperature, the marked tenderness in the region of the kidney and along the course of the ureter, and the absence of rigidity of the right rectus and point tenderness suffice to guide correctly. While preparing the monograph, I saw, in consultation, a case of pyelitis complicating pregnancy. The diagnosis was readily made by the attending physician, Dr. Niebruegge.

Vineburg thinks that in ruptured tubal gestation sac the pain is more paroxysmal and more severe than in appendicitis. My experience has been that the clinical

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[2] Centralbl. f. Gynäk., 1885, ix, 444.
[3] Quoted by Boije.
[4] Med. Rec., 1892, xli, 109.
[5] Med. Rec., New York, 1894, xlvi, 678; 1895, xlvii, 28 and 379.
[6] Med. News, 1894, lxv, 667.
[7] Am Jour. Obst., 1895, xxxi, 181.
[8] Centralbl. f. Gynäk., 1905, xxviii, 596.
[9] Brooklyn Med. Jour., 1899, xiii, 356.
[10] Monatschr. f. Geburtsh. u. Gynäk., 1897, vi, 327.
[11] Centralbl. f. Gynäk., 1901, xxvi.
[12] Med. Obozr., 1902, lvii, 9.
[13] Brit. Med. Jour., 1905, i, 463.
[14] Beitr. z. Geburtsh. u. Gynäk., Berlin, 1900, iii, 33; and Centralbl. f. Gynäk., 1900, xxiv, 1214.
[15] Homeop. Jour. Obst., Gynec. and Pediat., 1903, xxv, 9.

PERFORATIVE APPENDICITIS COMPLICATING PREGNANCY.

	Author	Time	Prev. Attack	Operated	Appendix	Peritonitis	Aborted	Mortality	
								Infant	Mother
1	Hancock	...	...	Yes	Perf.	Local	No	D	R
2	Korn	6 mo.	...	No	Perf.	General	Before Oper.	D	D
3	Mueller	9 mo.	...	No	Perf.	General	Before Oper.	D	D
4	Wiggins	3 mo.	...	No	Perf.	General	No	D	D
5	Krafft	4 mo.	Yes	Yes	Perf.	Local	No	R	R
6	Munde	8 mo.	?	Yes	Perf.	Local	Before Oper.	D	R
7	Hirst	4½ mo.	...	Yes	Perf.	General	No	R	R
8	Munde	2 mo.	...	Yes	Perf.	...	Before Oper.	D	D
9	Harrison	5 mo.	...	Yes	Perf.	Local	Before Oper.	D	R
10	Munde	5 mo.	...	Yes	Perf.	...	...	D	D
11	McArthur	4½ mo.	Yes	Yes	Perf.	Local	After Oper.	D	D
12	"	4½ mo.	...	Yes	Perf.	Local	Before Oper.	D	D
13	Abrahams	3 mo.	...	Yes	Perf.	Local	...	D	D
14	Penrose	2 mo.	Yes	Yes	Perf.	Local	No	R	R
15	Crutcher	2 mo.	...	Yes	Perf. and Gang.	Local	Before Oper.	D	D
16	Abbe	7 mo.	...	Yes	Perf.	General	No	R	R
17	Bull	3½ mo.	...	Yes	Perf.	Local	No	R	R
18	Laroyenne	3½ mo.	...	Yes	Perf.	Local	No	R	R
19	Le Gendre	2½ mo.	Yes	Yes	Perf.	Local	No	R	R
20	Kroenig	8 mo.	No	Yes	Perf.	General	After Oper.	D	D
21	Oppenheimer	7 mo.	...	Yes	Perf.	General	Before Oper.	...	D
22	Hlawacek	9 mo.	...	No	Perf.	General	Before Oper.	R	D
23	Marx	7 mo.	Yes	Yes	Perf.	Local	After Oper.	D	R
24	"	4½ mo.	...	Yes	Perf.	Local	After Oper.	D	D
25	Budin	5 mo.	...	Yes	Perf.	General	...	D	D
26	Pinard	5 mo.	...	Yes	Perf.	General	After Oper.	D	D
27	Fraenkel	6 mo.	Yes	Yes	Perf.	Local	After Oper.	D	D
28	"	2 mo.	...	Yes	Perf.	Local	After Oper.	D	R
29	Maygrier	6 mo.	...	Yes	Perf.	General	After Oper.	R	D
30	Porak & Schwartz	7½ mo.	...	Yes	Perf. and Gang.	General	After Oper.	R	D
31	Gordon	3 mo.	...	No	Perf. and Gang.	General	Before Oper.	D	D
32	Segond	5 mo.	...	Yes	Perf. and Gang.	General	After Oper.	D	D
33	Falk	6 mo.	...	Yes	Perf.	Local	No	R	R
34	Pinard	6 mo.	...	Yes	Gang.	...	After Oper.	D	R
35	"	3 mo.	...	Yes	Perf.	General	After Oper.	D	R
36	Koenig	5 mo.	Yes	No	Perf. and Gang.	...	Before Oper.	D	D
37	"	4½ mo.	...	Yes	Perf.	General	Before Oper.	D	D
38	"	6 mo.	Yes	Yes	Perf.	Local	Before Oper.	D	R
39	"	9 mo.	Yes	Yes	Perf.	General	Before Oper.	R	D
40	Hagapoff	8 mo.	...	Yes	Perf.	Local	No	R	R
41	Herrgott	8 mo.	...	Yes	Perf.	General	Before Oper.	...	D
42	"	9 mo.	...	Yes	Perf.	Local	After Oper.	R	D
43	Semb	6 mo.	No	Yes	Perf.	General	After Oper.	D	D
44	"	3 mo.	Yes	Yes	Perf.	...	After Oper.	D	D
45	Lewis	4 mo.	...	Yes	Perf.	Local	No	R	R
46	Sonnenberg	5 mo.	...	Yes	Perf.	Local	After Oper.	D	R
47	Brothers	6 mo.	...	Yes	Perf. and Gang.	Local	Before Oper.	R	R
48	Donoghue	3½ mo.	...	Yes	Gang.	Local	No	R	R
49	Keiler	2 mo.	...	Yes	Perf.	Local	After Oper.	D	R
50	Cachlo	6 mo.	...	Yes	Perf.	Local	No	R	R
51	Oui	8 mo.	...	Yes	Perf.	...	...	...	D
52	Betts	9 mo.	Yes	Yes	Perf. and Gang.	Local	Before Oper.	D	D
53	Rostovtsev	2 mo.	...	Yes	Perf.	Local	Before Oper.	D	R
54	"	8 mo.	...	Yes	Perf.	Local	No	R	R
55	"	1 mo.	...	Yes	Perf.	General	No	D	D
56	"	7 mo.	...	No	Perf.	General	No	D	D
57	"	8 mo.	...	No	Perf.	General	Before Oper.	R	D
58	"	3 mo.	...	Yes	Perf.	General	After Oper.	D	D
59	"	9 mo.	...	No	Perf.	General	Before Oper.	R	D
60	Rosner	4 mo.	...	Yes	Perf.	...	No	R	R
61	"	10 mo.	...	No	Perf.	General	Before Oper.	...	D
62	"	4 mo.	...	Yes	Perf.	General	After Oper.	D	D
63	"	8 mo.	...	No	Perf.	General	...	D	D
64	Ricketts	2 mo.	...	Yes	Gang.	...	After Oper.	...	R
65	Holmes	4 mo.	...	Yes	Gang.	General	No	R	R
66	Treves	9 mo.	...	Yes	Perf. and Gang.	General	No	R	R
67	Labhardt	3 mo.	...	Yes	Perf.	Local	Before Oper.	D	R
68	Lediard & Sedgwick	6 mo.	...	Yes	Perf.	Local	After Oper.	D	R
69	Thring	6 mo.	Yes	Yes	Gang.	Local	No	R	R
70	Tscherning	5½ mo.	...	Yes	Perf.	General	No	D	D
71	"	2 mo.	...	Yes	Perf. and Gang.	General	After Oper.	D	D
72	"	6 mo.	...	Yes	Gang.	Local	After Oper.	D	R
73	Heaton	2 mo.	...	Yes	Perf.	Local	No	R	R
74	"	5 mo.	...	Yes	Perf.	General	Before Oper.	D	D
75	"	7 mo.	...	Yes	Perf.	Local	Before Oper.	D	R
76	Mauclaire	4 mo.	...	Yes	Gang.	General	No	R	R
77	Sherping	5 mo.	...	Yes	Perf.	Local	After Oper.	D	R
78	McBurney	5 mo.	...	Yes	Perf.	Local	No	R	R
79	Sears	3 mo.	...	Yes	Gang.	Local	No	R	R
80	Freund	2 mo.	...	No	Perf.	Local	Before Oper.	D	D
81	Sonnenberg	4 mo.	...	Yes	Gang.	...	After Oper.	D	R
82	Hermes	5 mo.	...	Yes	Perf.	General	After Oper.	D	D
83	Oidtman	3 mo.	Yes	Yes	Perf.	Local	Before Oper.	D	R
84	Meurer	9 mo.	...	No	Perf.	...	No	D	D
85	Jung	5 mo.	Yes	Yes	Gang.	General	After Oper.	D	R
86	Shoemaker	5 mo.	...	Yes	Perf.	Local	...	D	D
87	"	5 mo.	...	Yes	Perf. and Gang.	Local	After Oper.	D	R
88	Tisser & Lemeland	9 mo.	...	Yes	Perf.	General	After Oper.	D	D
89	Roncaglia	3½ mo.	...	Yes	Gang.	...	After Oper.	D	R
90	"	1 mo.	...	Yes	Perf. and Gang.	...	Before Oper.	D	R
91	Stahler	24 wks.	...	Yes	Perf.	...	After Oper.	D	R
92	Linder	8 mo.	...	Yes	Perf.	General	After Oper.	D	D
93	"	8 mo.	...	Yes	Perf.	Local	Before Oper.	D	D
94	"	9 mo.	...	Yes	Perf.	...	Before Oper.	R	R
95	" (Webster's)	3 mo.	...	Yes	Perf. and Gang.	General	After Oper.	D	R
96	"	4 mo.	...	Yes	Gang.	Local	After Oper.	D	R
97	Lockyer	8 mo.	...	Yes	Perf.	Local	Before Oper.	R	R
98	"	7 mo.	...	Yes	Gang.	General	Before Oper.	R	D
99	von Rosthorn	8 mo.	...	No	Perf.	General	Before Oper.	R	D
100	" "	4⅔ mo.	...	Yes	Perf. and Gang.	General	No	D	D
101	Croll	6 mo.	...	Yes	Perf.	Local	After Oper.	D	R
102	Cooke	8 mo.	Yes	Yes	Gang.	...	After Oper.	R	R
103	Babler	6 mo.	Yes	Yes	Perf.	Local	After Oper.	D	R

picture and the findings on thorough examination suffice to guide to the seat of trouble.

When the symptoms of appendicitis appear during the puerperium, difficulty in reaching a correct diagnosis may be met. Pinard[16] has mentioned the fact that in septicemia a chill seldom appears before the third day after delivery, while in perforative appendicitis or in ruptured appendiceal abscess the patient may experience a chill on the day of the delivery or the following day. The character of the lochia, the previous history, the mode of onset, the muscular rigidity and the findings in general will suffice to guide to the appendix.

PROGNOSIS.

The mortality of appendicitis complicating pregnancy and the puerperium is the mortality of delay.

Delay until perforation has occurred means an infant mortality of 66 per cent. and a parent mortality of 48.5 per cent. Of the 103 perforative cases complicating pregnancy that I have collected, operation was performed in 89. Thirty-three aborted before, and 37 after operation. 36 mothers died. Of the 14 perforative cases treated medically, all the patients died; 10 aborted, and in 4 the child died in utero, a parent mortality of 100 per cent. and an infant mortality of 75 per cent. Of the 104 non-perforative cases, 50 patients were operated on; 7 aborted; one mother died. Of the 54 not operated on, 6 aborted and 4 mothers died. I found 28 cases of appendicitis complicating the first ten days of the puerperium; eighteen were perforative. In these 18 cases 12 patients were operated on, with a mortality of 33.3 per cent. Two of the 6 not operated on recovered by accident; the pus burrowed through the rectum. Nine cases were non-perforative. In these 3 patients were operated on and 6 were treated medically. All recovered. In one case (Michel's[17]) complicating the puerperium, full details are lacking. I have not collected the cases occurring after the tenth day of the puerperium, because I do not think they should be considered here.

TREATMENT.

Early, efficient surgical intervention is the secret of success in the treatment of appendicitis complicating pregnancy and the puerperium. If perforation has occurred, and if the abscess is localized, incision and free drainage should be immediately secured. The great danger of rupturing the abscess and flooding the peritoneal cavity with pus, if the uterus is emptied before operation, is so real that it demands consideration. Muret,[18] Koenig[14] and others have reported fatal cases in point. In my case delivery did not occur until 48 hours after the operation, thereby giving time for the formation of a protecting wall between the general peritoneal cavity and the gauze drains.

If the patient has general peritonitis, incision and drainage, without disturbing the gestation, are indicated, provided the pregnancy has not advanced beyond the fourth or fifth month. If the patient is at the end of gestation, *accouchement forcé*, followed by abdominal section for the securing of efficient drainage, are called for. The exaggerated Fowler posture and continuous saline infusion per rectum are of very great benefit in the postoperative treatment.

Cesarean section has been suggested for perforative cases with general peritonitis, if the patient is near the end of pregnancy. The subject needs more thorough consideration. We should at least be sure that the infant is alive, before we resort to Cesarean section. It seems to me that *accouchement forcé* or vaginal section, followed by abdominal incision and free drainage, offer the best results in these very distressing conditions. The surgeon must be guided by the individual case.

REPORT OF CASE

Patient.—Mrs. L. S., aged 29, was seen in consultation with Dr. Soliss of Sapulpa, Okla., to whom I am indebted for the following data.

Previous History.—Family history was negative. Menses began at 12, always regular and free from pain. Married at 19. Mother of three healthy children. Has had five miscarriages. Last menses appeared in October, 1907. During the present gestation she had frequently been seized with sudden, more or less severe pain in the right, lower abdomen. During the past few months the pain had become more frequent and more severe.

Present Illness.—On Sunday, April 26, 1908, shortly after having partaken of a substantial dinner, she was suddenly seized with an excruciating pain in the abdomen. It was so severe that she could not move. Gradually the pain shifted to the right side and became intermittent and cramp-like in character. On Monday morning she arose and got breakfast but would occasionally have to sit down on account of the pain in her right side. Monday night the excruciating pain returned and seemed localized in her right side. She vomited and felt hot. Early Tuesday morning Dr. Soliss was called. He found the patient in excruciating pain. There was marked tenderness over McBurney's point and the patient presented the usual clinical manifestations of a severe attack of acute appendicitis. Ice bags were applied to the right inguinal region and sedatives were administered to alleviate the intense suffering. Urinalysis showed absence of pus, blood, casts and albumin. Vaginal examination showed slight dilatation of cervix. Fetal heart sounds normal. A diagnosis of acute appendicitis was made. On Wednesday the condition of the patient being unchanged, and the symptoms continuing unabated, an operation was advised. Since the slightest exertion was followed by excruciating pain in the lower right quadrant of abdomen the patient hesitated to be moved. On Friday morning she decided to make the trip to St. Louis. While *en route*, the patient was restless and feverish. Dr. Soliss feared she might be confined on the train. I saw the patient with Dr. Soliss, Saturday afternoon, at the Deaconess Hospital and readily confirmed his diagnosis. The history, the pain, the fever, the localized tenderness, the absence of pus, blood or casts in the urine, and the picture in general pointed to the appendix. The fetal heart sounds showed the infant in good condition. The cervix was somewhat dilated and softened.

Operation.—An incision was made over the area of dulness and about a quart of offensive pus evacuated. The wall of the uterus formed a part of the wall of the abscess. The appendix could be felt near the margin of the ribs in the right mammary line. It was curled on itself, perforated, contained a fecal concretion, and was so firmly adherent and up so high that I feared that undue manipulation would too greatly endanger the life of both patient and infant. The distal free portion of the appendix was removed. Two rubber tubes were used to secure good drainage. Three small gauze drains were placed between the abdominal wall and the uterus so that the general peritoneal cavity would be protected if premature delivery occurred. A figure of eight silkworm gut suture was placed in the upper and one in the lower angle of the incision as a precaution. The entire operation occupied possibly fifteen minutes. The patient required very little ether and quickly recovered from same.

Postoperative History.—Two days after operation labor pains appeared and caused considerable anxiety. A hypodermic injection of ¼ grain of morphin sulphate was given. Five hours later a living, apparently six months old infant was born. The placenta was not readily expelled, but as there was not any undue hemorrhage I did not resort to Credé's method. I was-afraid of inducing rupture of the newly formed adhesions about the abscess wall. On the day after delivery the temperature was 101.4 F., pulse, 100. The general condition of patient was satisfactory. Symptoms of peritoneal soiling were absent. The lochial discharge was normal. During the first four days after delivery the daily temperature fluctuated between 100 and 104.4 F., pulse, 100 and 140. The abdomen was soft and the lochia normal. The patient complained of severe pain in the hepatic region and I feared a portal infection. On removing the drains I found the entire surface of wound covered with a necrotic membrane. On palpation of abscess cavity I found the general peritoneal cavity well walled off. Gentle irrigation of wound twice daily was of great benefit. The temperature dropped to 101 F. and the patient's general condition improved.

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[16] Ann. de gynéc., 1898, xlix, 343.
[17] Rev. méd. de l'Est, 1906, xxxii, 237.
[18] Quoted by Pinard.

The patient left the hospital June 3. The high temperature which developed during the week after delivery was due to absorption of septic material at site of operation. The patient developed a phlebitis in the left thigh one week after leaving the hospital. She departed for home July 4, 1908, in the best of spirits.

CONCLUSIONS.

The following conclusions seem justified:

1. Perforative appendicitis is one of the gravest complications of pregnancy with which the surgeon has to deal.

2. Appendicitis complicates pregnancy with greater frequency than the tabulated cases would indicate.

3. Pregnancy does not seem to predispose to primary appendicitis. It may precipitate an attack in certain chronic cases.

4. The clinical manifestations do not differ from those of appendicitis in the non-pregnant.

5. Before a diagnosis is made, the medical attendant must bear in mind the possibility of ureteritis and pyelitis. The diagnosis is not, as a rule, difficult.

APPENDICITIS COMPLICATING THE PUERPERIUM.

	Author	Time	Operated	Perforated	Mortality	Remarks
1	Peterson	7 days	No	Yes	R	Perf. into Bowel.
2	Muret	2 days	No	Yes	D	
3	Fowler	10 days	Yes	Yes	R	
4	Munde	2 days	Yes	Yes	D	
5	Noble	2 days	Yes	Yes	R	
6	Abrahams	5 days	No	No	R	
7	Iarca	7 days	No	Yes	D	
8	Fraenkl	10 days	No	No	R	
9	Vinay	4 days	No	No	R	
10	Marx	5 hrs.	Yes	No	R	
11	Marx	4 days	Yes	Yes	R	
12	Jewett	7 days	No	Yes	R	Perf. into Bowel.
13	Rostov sev	3 days	Yes	Yes	R	
14	Darquier	9½ hrs.	Yes	Yes	R	
15	Porak & Daniel	2 days	No	Yes	D	
16	Maute	2 days	Yes	Yes	D	
17	Le Page	4 days	Yes	Yes	D	
18	Labhardt	2 days	No	No	R	
19	Holmes	?	No	No	R	
20	Meurer	4 days	No	No	R	
21	Meurer	3 days	No	Yes	D	
22	Robson	1 days	Yes	Yes	R	
23	Robson	3 days	Yes	Yes	R	
24	Keyes	?	Yes	No	R	
25	Myer	2 days	Yes	Yes	R	
26	Davis	?	Yes	No	R	
27	Michel	9 days	....	....	....	No details.
28	Hilton	3 days	Yes	Yes	D	

6. Of 235 cases of appendicitis complicating pregnancy and the puerperium, 103 of the 207 cases complicating pregnancy were of the perforative variety. Of these perforative cases, 89 patients were operated on: 33 aborted before and 37 after operation; 36 mothers died.

All of the 14 patients who were not operated on in perforative cases died; 9 infants died. Of the 104 non-perforative cases, 50 patients were operated on; 7 aborted and one mother died. Of the non-perforative, non-operated cases, 6 patients aborted and 4 died. (These were mild attacks.) Of the 28 cases occurring during the puerperium 18 were perforative. Of these latter, 12 patients were operated on; 4 died. Two of the five not operated on accidentally recovered; the abscess ruptured into the *rectum. All of the patients in the non-perforative cases recovered.*[19]

7. The mortality of appendicitis complicating pregnancy is the mortality of delay.

8. Early, efficient surgical intervention is the secret of success in the treatment of appendicitis complicating pregnancy.

9. It is far better to evacuate an appendiceal abscess before emptying the uterus, since such a procedure would eliminate the possibility of flooding the free peritoneal cavity with pus.

10. If general peritonitis is present at time of consultation, *accouchement forcé,* followed by abdominal section, is indicated in the cases near the end of gestation. Cases have been reported in which general peritonitis was present at the time of operation, and yet the patient went to term.

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RESULTS OF OVARIAN TRANSPLANTATION ON BODY WEIGHT AND EGG WEIGHTS IN FOWLS.*

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It seems that lack of growth follows the removal of and transplantation of ovaries in chickens. At the end of from six to twelve months the hens operated on are distinctly lighter than the controls. Also the eggs from the hens operated on weigh less than the eggs from the normal hens. As a rule, the weight of the egg and chick relative to the body weight is also less in the hens operated on.

During the second year both the actual weight of the egg and weight relative to the body weight in the hens operated on approach the normal.[1]

	1907-'08.	
Fowl.	Egg wt.	Body wt.
G 1 (control)	59.96	2020
G 2 (operated)	47.50	1790
G 3 "	43.44	1650
B M 1 (control)	57.50	2270
B M 2 (operated)	37.12	1770
B M 3 "	41.20	1540

	1906-'07.		1907-'08.	
Fowl.	Egg wt.	Body wt.	Egg wt.	Body wt.
B 1 (control)	60.1	1500	63.55	1350
B 2 (operated)	40.9	1250	51.17	1250
B 3 "	46.6	1250	.....	....
W 1 (control)	59.1	1480	59.01	1540
W 2 (operated)	49.2	1450	63.25	1750
W 3 "	48.6	1250	.....	....

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[19] Just as the proof-sheets of this article were being corrected, the article by Weber and that by Herrnstadt came to my notice. Weber reports three perforative and two non-perforative cases. All the patients were operated on and all recovered. Herrnstadt reports a perforative case in a patient in the ninth month of pregnancy. Premature delivery of a dead fetus preceded the incision and drainage of an appendiceal abscess; the abscess was diagnosed some time after delivery of the fetus. The patient recovered.

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] For a fuller account of these experiments the reader is referred to an article by the author entitled "Results of Removal and Transplantation of Ovaries in Fowls," Journal of Experimental Zoology, July, 1908.

SERUM TREATMENT OF EPIDEMIC CEREBROSPINAL MENINGITIS.*

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Previous to the work of Flexner in this country and that of Kolle and Wassermann and Jochmann on the continent. little had been accomplished in the production of a serum curative for epidemic cerebrospinal meningitis. The experiments of Bonhoff and of Lipierre, while suggestive of results, were too incomplete and unsatisfactory to warrant conclusions that they were working with a serum of protective and curative value. They were unable to reproduce the disease experimentally in animals in a form simulating that disease in human beings, and there is some doubt as to whether their control animals, for the most part guinea-pigs. died from toxemia or from infection.

THE SERUM.

As a result of the epidemic of cerebrospinal meningitis which devastated greater New York during the winter of 1904 and spring of 1905, in which there were about four thousand cases with 3,429 deaths, Dr. Flexner, as a member of a commission appointed by the Health Department of New York City, undertook an experimental investigation of epidemic meningitis, with the result that he proved conclusively that this type of cerebrospinal meningitis could, by direct inoculation into the spinal canal, be transmitted to monkeys in a form closely resembling that found in human beings. Furthermore, he was able to produce an antidotal serum for the meningococcus which, when inoculated in certain quantities at the same time as an otherwise fatal dose of living cultures of the meningococcus, would in almost all cases prevent the disease from terminating fatally in monkeys. He also could save monkeys inoculated with a lethal dose of living cultures of meningococcus when serum was injected into the spinal canal not later than six hours afterward.

Serum used in this series of cases was furnished by Dr. Flexner and was in brief made as follows: Horses were injected first subcutaneously, then intravenously, with gradually increasing doses of living meningococci. Later subcutaneous injections of an autolysate were used in gradually increasing doses. Many different strains of meningococci were employed in preparing the living culture and the autolysate for inoculation. After months have elapsed the horse was bled, the serum collected and bottled ready for use.

SERIES OF CASES TREATED.

The serum was first used systematically by me in a series of cases beginning April 2, 1907, at Castalia, Ohio, where an epidemic of cerebrospinal meningitis had created such havoc that half the population of the village of six hundred inhabitants had fled in terror. Between the months of January and April, 1907, 18 cases of meningitis developed. Of the 18 patients, 12 died and six recovered, a mortality of 66.7 per cent., a recovery of 33.3 per cent. Serum was used in three cases. All the patients recovered. In the 15 cases in which the serum was not used. 12 patients died and 3 recovered, a mortality of 80 per cent.. and recovery of 20 per cent.

In the first few cases treated, from 5 to 10 c.c. of serum was injected at a dose, but wider experience showed it to be safe to use large amounts, and then from 15 to 30 c.c. was used at one injection, provided that much fluid was withdrawn. These injections were usually repeated at daily intervals until acute symptoms subsided and the spinal fluid became clear. In some instances two injections were made daily. When the meningeal symptoms disappeared and the temperature subsided. the further use of the serum was discontinued until a rise in temperature or increase in meningeal symptoms made it seem advisable to again employ it.

Altogether, the serum has been employed by me in 32 cases. Of the 32 patients one is still in the acute stage of the disease and can not be considered in this report. Of the 31 cases to be considered, in 30 the diagnosis was confirmed by finding the characteristic Gram-negative diplococci in coverslip preparations, and in almost all cases cultures were positive. In one case, clinically typical of cerebrospinal meningitis, with marked petechial eruption, only a few drops of bloody serum was obtained by lumbar puncture, from which nothing definite was made out. The boy's mother, however, had nursed a fatal case of this disease two weeks previous to the onset in him.

That these cases were not mild ones but of marked severity and a severe test of the therapeutic value of the serum is made evident by the fact that when serum was administered 17 of the patients were comatose, 3 unconscious and wildly delirious, and 12 semiconscious or conscious with great irritability.

Many of these cases were seen in the outlying and poor districts, where it was impossible to obtain as complete records in regard to temperature, pulse and respiration as desirable, though as a rule the records are complete enough to enable one to follow the progress of the cases satisfactorily. A good proportion of the cases were under constant observation at the various hospitals in Cleveland.

Eleven of the 31 patients died and 20 recovered—a mortality of 35.5 per cent. and a recovery of 64.5 per cent. Four of the comatose patients were moribund at the time of the administration of the serum, dying within a few hours. Three of the cases in which the patients were moribund were of the fulminating type and were seen forty-eight or less hours after onset. A fifth was a chronic case of nearly four months' standing. in which the patient was blind, deaf, comatose and a mere breathing skeleton at the time of administration of the serum. In a sixth case of thirty-nine days' duration before serum was employed, chronic hydrocephalus had already developed. Subtracting these 6 cases, manifestly unfair tests of the treatment and hopeless so far as serum therapy is concerned. there would be 25 cases with 5 deaths, a mortality of 20 per cent. and a recovery of 80 per cent.

Twenty-four cases were treated ninety-six or less hours after onset. Of these patients 16 recovered and 8 died. a mortality of 33.3 per cent. and recovery of 66.7 per cent. The four moribund patients were included in this group. Subtracting them, there would be 20 cases with 4 deaths and 16 recoveries. a mortality of 20 per cent. and recovery of 80 per cent.

Eighteen cases were seen seventy-two hours or less after onset of symptoms. Fourteen of the patients recovered and there were 4 deaths. a mortality of 22.2 per cent. and recovery of 77.7 per cent. Three of the moribund patients fell within this group. Deducting these, there are 15 cases with 1 death, a mortality of 6.6 per cent. and recovery of 93.4 per cent.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Thirteen cases were seen forty-eight hours or less after onset of symptoms. Nine of these patients recovered and 4 died, a mortality of 30.7 per cent. and recovery of 69.3 per cent. Three of the moribund patients were included in this group. Subtracting these, we have 10 cases with 1 death, a mortality of 10 per cent. and recovery of 90 per cent.

Five cases were seen twenty-eight hours or less after onset of symptoms. All of these recovered, a recovery percentage of 100 per cent.

Eleven of the 31 cases developed in children under 5 years of age. Six of these recovered and 5 terminated fatally, a mortality of 45.5 per cent. and recovery of 54.5 per cent. In these 5 cases which terminated fatally 4 patients died of chronic hydrocephalus, late in the course of the disease, and a fifth case died during the acute stage of the disease.

The average duration of the disease in cases of recovery seen twenty-eight hours or less after the onset of symptoms, when treated with the serum, was twelve days; above twenty-eight hours and including forty-eight hours, nineteen days; above forty-eight hours and including seventy-two hours, forty-nine days. As most of the cases seen later than seventy-two hours died, a satisfactory statistical chart of cases recovering can not be compiled at this time.

Fever terminated by crisis in 11 cases and by lysis in 9 cases. In one case the temperature was normal at the time of administration of serum and afterward.

Of the 11 fatal cases 4 patients died from chronic hydrocephalus, and 4 were moribund at the time of administration of the serum. One patient in the acute stage of the disease died shortly after the administration of the serum, and in this case there is a possibility that the severe chill, cyanosis and rise in temperature to 106 degrees was produced by the bactericidal action of the serum on the numerous meningococci present and liberation of more endotoxins than could properly be taken care of by the patient. In one case death occurred in the chronic stage of the disease nearly six months after onset. Acute dilatation of the heart and pulmonary edema produced death during the acute stage of the disease in the last case.

In this series of cases the youngest individual was 3 months old and the oldest 28 years of age.

The onset was with marked gastrointestinal symptoms in six cases, marked diarrhea and vomiting being present.

Petechial eruption alone was present in 11 cases and associated with hemorrhages into the skin in 3 additional cases. A petechial eruption associated with herpes labialis was present in one case. A petechial, hemorrhagic and herpetiform eruption were all present in one case. A petechial eruption associated with erythematous eruption was present in one case. An erythematous eruption only was present in two cases. A macular eruption was present in one case. Mottling of the skin and herpes labialis were associated in one case. In two cases mottling alone was present. Nine cases were unassociated with skin eruptions. Surprisingly few patients had herpes.

In two cases well-marked urticarial eruption developed as a result of the administration of the serum. In one of these cases the eruption came on fifteen days after the injection of the serum, and in this case practically all the serum administered was given subcutaneously. In the second case the urticarial eruption developed one week after 35 c.c. of serum had been administered intraspinally, the child being perfectly well in other respects at this time.

Sequelæ were present in three cases. In Case 1 a left-sided foot drop developed, which is gradually improving. In Case 15 slight impairment in hearing persists. In Case 31 a marked suppurative arthritis of the left knee is rapidly clearing up under treatment by aspiration and injection of serum directly into the joint.

Examination of the spinal fluid in all cases showed the polymorphonuclear neutrophilic leucocyte to be the predominant cell with varying numbers of endothelial cells present. The largest number of endothelial cells found were in the fluid obtained from Case 31, in which diplococci were very few and hard to find. In many cases these endothelial cells were phagocytic for meningococci and not infrequently contained polymorphonuclear leucocytes in various stages of disintegration. In a very few cases with a diminution of turbidity of the spinal fluid an increase in lymphocytes was noted and in one case, well along in the course of the disease, differential count showed 98 per cent. of lymphocytes. As a rule the neutrophilic leucocytes are very much in excess, and as the fluid becomes clearer, while they diminish in numbers, differential count still shows them to be approximately 90 per cent. or more of all cells. The number of diplococci present in the spinal fluid seems to have no bearing on the severity of the clinical symptoms. In some cases in which there was most marked petechial eruption, coma and meningeal symptoms, it was difficult to find organisms. Occasionally organisms could be found only after cultures had been made or after incubation for twelve hours of the original spinal fluid. On examination of such incubated spinal fluid one often finds very numerous intracellular and extracellular meningococci, which can then be cultivated more readily.

In most cases in which recovery takes place after the injection of serum the spinal fluid progressively becomes clearer and diminished in amount. In several cases, especially those in which few or a moderate number of meningococci were found, these could not be cultivated subsequent to the injection of serum, though they grew readily at first. In such cases, as a rule, the diplococci do not stain well. At other times growths could be obtained until after the second or third dose of serum had been administered, and occasionally when considerable amounts had been given after longer intervals of time had elapsed. In cases in which the micro-organisms, both intracellular and extracellular, are present in exceedingly large numbers, it has been my experience that the prognosis is not so good, even though the patient may present no worse symptoms clinically than other patients from whom fewer organisms have been obtained. In such cases rises in temperature following the administration of serum have taken place several times, and in one case in particular I could not help but feel that more endotoxins had been liberated than could be properly taken care of by the antitoxic properties of the serum or by the patient himself. In such cases I should feel like giving a small amount of serum intraspinally with frequent repetitions and larger amounts subcutaneously. Or, if large amounts be used intraspinally they should be sufficiently large (for example, 30 c.c. or more) to provide antitoxic properties enough to neutralize the endotoxins liberated. It should be advisable, also, to administer considerable serum subcutaneously.

Absence of fever does not mean necessarily a betterment in condition, as frequently a very purulent spinal fluid is withdrawn in cases with normal temperature when seen.

In several instances in which it has been difficult to find meningococci on first puncture and in which cells containing the meningococci contained very few, after the administration of serum and subsequent withdrawal of fluid, I have repeatedly found cells packed with meningococci, though possibly there were no more phagocytic cells than on first examination. This would indicate that opsonins played a definite part in the process of immunization. The poor staining of the meningococci seen after the use of the serum would seem to point to definite bactericidal properties in the serum.

Some of the cases presented features of unusual interest, and I shall briefly mention them.

In Case 2, which was almost in the third week of the disease, the disease terminated abruptly after the withdrawal of fluid and injection of serum.

Case 8 was interesting because a young man desperately ill was cured by subcutaneous injections of serum, only 5 c.c. having been given intraspinally. The subcutaneous method was used because frequent attempts to withdraw fluid by puncture were unsuccessful, only a few drops of bloody serum being obtained.

In Case 12 the question arises whether the liberation of endotoxins following the injection of serum had anything to do with the appearance of a marked chill, cyanosis and rise of temperature to 106 degrees with death shortly afterward.

In Case 13 puncture and injection of serum was made in less than two hours after development of meningeal symptoms with a result that the disease was promptly arrested in its progress in spite of the fact that there was much pus present and fairly numerous meningococci.

Case 17 is of interest because sharply staining Gram-negative intracellular diplococci were found in the spinal fluid at the time of puncture, approximately four months after onset. Cultivation of these were unsuccessful.

Patient 19, a child seven months old, was discharged apparently well sixty-one days after the onset of the disease, but was readmitted seventeen days after the discharge on account of convulsions associated with twitching of the right side of the face and of the extremities on the right side. There had been four such attacks, beginning six days after discharge from the hospital, and the child was admitted the second time during the fourth attack, which lasted five hours. This attack was promptly checked by lumbar puncture and the withdrawal of 35 c.c. of perfectly clear fluid. No further attacks have since developed.

In Case 23 it was difficult to tell what marked the onset of the cerebrospinal meningitis; whether an acute process due to the meningococcus was engrafted on a more chronic obscure trouble, or whether from the first the condition was due to a meningococcus infection of unusual onset.

In Case 25 a condition of hydrocephalus in which large amounts of clear fluid were obtained by puncture following the subsidence of the acute meningeal symptoms and which gave every evidence of becoming chronic, eventually subsided completely and the child remains well at the present.

The feature of particular interest in Case 29 was the direction followed by the aspirating needle in getting into the spinal canal. Attempts to get the needle in by the direct method in the mid-line, or by the up-an-in method, starting slightly below the mid-line, resulted negatively, and fluid was obtained only when the needle was directed down and out, the needle being inserted below the mid-line between the third and fourth lumbar vertebræ. The child in this case was the subject of congenital lues, and no marked degree of scoliosis was present.

Case 31 is the most interesting and important of the series.

Patient.—M. N., male, aged 28, was perfectly well on the early morning of May 16, 1908.

Onset of Disease.—At 9 o'clock in the morning, May 16, the patient felt sick and was seized with a violent chill. Temperature of 103 F., with a pulse of 100, and normal respirations developed about 3 o'clock in the afternoon of the same day. Patient was seen by Dr. Cheetham at 10 o'clock in the morning. No meningeal symptoms were present at this time. On the evening of the 16th headache developed and at 3 o'clock in the morning of May 17 the patient became wildly delirious and unconscious. At 5 o'clock opisthotonus, Kernig's sign, petechial eruption, with true hemorrhages into the skin, and general rigidity were present.

Clinical Course and Treatment.—May 17: The patient was brought to Lakeside Hospital at 2 p. m. At this time temperature was normal and the pulse 100. The patient was still wildly delirious and unconscious and required the efforts of three men to control him while chloroform was administered and lumbar puncture performed. Forty c.c. of quite turbid fluid was obtained and 30 c.c. of serum injected. Examination of this fluid showed a very rare and rather poorly staining intracellular diplococcus. Cultures were made and the original fluid incubated with the result that typical meningococci grew out in large numbers in the incubated fluid and a few colonies developed on artificial cultures.

May 18: The patient was better. Temperature was normal and pulse still about 100. There was still marked rigidity and Kernig's sign was present. Semiconsciousness was present, though at times patient could be aroused and made to answer questions intelligently. At 10 o'clock a second puncture was done and 25 c.c. of still turbid fluid was obtained. Fifteen c.c. of serum was given. Bacteriologic examination of this fluid gave results similar to those obtained at the time of first puncture, except that cultures failed to develop and even in the incubated fluid the meningococci did not increase in numbers. From this time on no further growth was obtained from the spinal fluid.

May 19: A third puncture was made and 45 c.c. of slightly blood tinged, but less purulent fluid was obtained. This came out under considerable pressure. Fifteen c.c. more of serum was injected intraspinally. The patient's mental condition was much brighter. Kernig's sign was still present but opisthotonus and muscular rigidity was less marked and the petechial eruption was beginning to fade. On this day the temperature went up to 100 with a pulse of 100, though the pulse was of a better character than at any time previous.

May 20: The temperature rose to 101, though the patient's condition was gradually improving as regards mental and meningeal symptoms. Lumbar puncture was performed and 25 c.c. of very slightly blood-tinged and still less purulent fluid obtained. Fifteen c.c. of serum was injected.

May 21: The patient's condition was so good that no lumbar puncture was made. Temperature was 101 F., pulse 90.

May 22: The patient's temperature continued to be 101, though all other symptoms were disappearing. Lumbar puncture was performed and 10 c.c. of quite clear fluid was obtained. Fifteen c.c. of serum was administered. The patient's mental condition was perfectly clear and except for very slight rigidity of the cervical muscles, and a still-present Kernig's sign, the meningeal symptoms had disappeared. Temperature still remained about 101 and continued at that point until May 25.

May 25: The temperature reached 103. The patient first complained of pain in the left knee joint. Examination of the joint demonstrated increased surface temperature, marked tenderness on palpation, and moderate bulging of the bursæ around the joint. Ice-bags were applied and the leg placed in a pillow splint.

May 26: The joint was more painful and hot and there was marked fluctuation present. The slightest motion caused excruciating pain. Aspiration was resorted to and 30 c.c. of thick purulent fluid obtained. Microscopic examination of this showed a very rare poorly staining intracellular diplococcus. No other micro-organisms were present. Cultures failed to develop even after incubation of the fluid. Fifteen c.c. of serum was injected into the joint through the aspirating needle.

May 27: The patient felt better, though there was still marked fluctuation present and great tenderness on motion. Temperature was 100. Aspiration was again resorted to with a result that about 40 c.c. of still very markedly purulent fluid was obtained. Fifteen c.c. more of serum was injected. Examination of the fluid removed resulted negatively insofar as cultures were concerned. When aspirating on this day lateral pressure was used in order that as much fluid as possible might be obtained. This was not done at the time of the first aspiration. The patient was told that if on the following morning he did not show more marked improvement surgical procedures would have to be resorted to.

May 28: The patient felt much better and there was less fluctuation, tenderness and surface temperature. Aspiration was again resorted to and 10 c.c. of distinctly less turbid fluid obtained, even though lateral pressure was exerted.

May 29: The temperature was perfectly normal and has remained normal since. There was no tenderness on palpation, surface temperature was normal, and patient could move the knee slightly. Aspiration resulted in the withdrawal of 2.5 c.c. of very slightly turbid fluid. Fifteen c.c. more of serum was injected. Since this date patient has had no more tenderness on motion and pressure can be exerted on the knee joint without pain. Bulging has disappeared.

May 31: There was an angle of flexion amounting to 90 degrees and there is every evidence that the joint will be cured with little or no limitation of motion.

Here, then we have an illustration of the specific action of antiserum as applied to one of the most common complications of cerebrospinal meningitis, namely, arthritis, and that, too, of a suppurative character, with a result that so far is truly astonishing. Knowing the feeble powers of resistance on the part of the tissues of the knee joint in warding off infection, I confess that when I saw thick pus withdrawn by my syringe I felt that nothing but surgical intervention would save the joint, for I have little faith in the medical treatment of purulent joints. Having seen so often the beneficial results arising from the administration of this serum when injected intraspinally I saw no reason for not trying serum in this locality. While it is too soon to state definitely that there will be no limitation of motion. I feel confident, by reason of the rapid strides made so far, that there will be little, if any. So far as my personal knowledge extends—for I have not as yet had the opportunity of looking up the literature on the subject—this is the first case in which a suppurative knee has been treated by direct injection into the joint with a specific serum of undoubted bactericidal and antitoxic properties. This case, of course, opens up the problem of treating suppurative conditions of joints due to other micro-organisms with specific antidotal serum, provided, of course, that such sera can be produced for the given micro-organisms.

In conclusion, I can do no more than say that, so far as I myself am concerned, I have no doubt as regards the wonderful efficacy of Dr. Flexner's serum in the treatment of epidemic cerebrospinal meningitis, provided it is used on patients not moribund or on those in whom chronic hydrocephalus has not already developed. I confidently believe that statistical reports excluding these cases will show that our percentage of recovery will contrast favorably with our previously high percentage of deaths.

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THE SERUM TREATMENT OF MENINGITIS.*

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BALTIMORE.

Flexner's antimeningitis serum has been in use for epidemic cerebrospinal fever now for one year. A final opinion of its value as a therapeutic measure must be reserved until the number of cases in which it has been used is very large. Our experience at the Johns Hopkins Hospital with a small series has been so striking, however, that Dr. Barker has asked me to present it to you.

The Board of Health statistics for Baltimore do not show the present epidemic to be more severe than those of previous years. In fact, we feel that the cases are rather sporadic than epidemic. And yet to date we have had twenty-one cases in the Johns Hopkins Hospital since January 1, compared with thirty-three cases in the previous nineteen years of the hospital. This we might mention as the first effect of the serum. The knowledge of its use has led local physicians to hurry their cases to the hospital and so enabled us to get them early in the disease—a very important factor in the outcome.

Of the thirty-three patients treated simply by lumbar punctures in the previous years of the hospital, twenty-one died and twelve recovered, a mortality of 64 per cent. The mortality for the individual years has varied from 43 per cent. to 100 per cent.

With this may be compared a mortality of 14 per cent. for the twenty-one cases treated with the antimeningitis serum in the past five months. Three of the twenty-one patients have died. One of the three was a fulminant case, in the class regarded by Flexner as beyond the reach of treatment. The second had a complicating bronchopneumonia of both lungs on admission and died in forty-eight hours. The third was a boy 29 months old who received his first injection of serum on the fourteenth day of the disease, when he was unconscious, having convulsions, and practically in extremis. He died of a respiratory paralysis in seventy-two hours; even in his case two injections of serum had succeeded in clearing the spinal fluid of organisms and giving sterile cultures.

As to age, twelve of the twenty-one patients were children under 12 years. Of these but one died, a mortality of 8 per cent.

Seventy per cent. of the cases not treated by serum have had complications, mainly bronchopneumonia.

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* Read in the Section on Practice of Medicine of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

whereas eight of the twenty-one serum cases, 38 per cent., suffered from them as follows:

Otitis media	3
Pneumonia	2
Both otitis media and pneumonia	1
Arthritis	1
Acute myocarditis	1

One of the patients with pneumonia had a metastatic infection of the right eye, but the terrible sequelæ of former years — palsies, mental defects, deafness and blindness—were rarities. The only sequelæ in the twenty-one cases were two of deafness and one of blindness.

Much more striking than the percentages of mortality, however, have been the effects observed at the bedside and in the laboratory in each individual case.

It has been our rule to do a lumbar puncture as early as possible in every case with symptoms suggesting meningitis, and to inject serum, giving the patient the benefit of the doubt. By this routine one patient with pneumonia, one with typhoid fever, two with pneumococcal meningitis, one with influenzal meningitis, and six with tuberculous meningitis have received serum. In no one of these cases has any bad effect resulted.

The serum has been injected by a syringe connected with the lumbar puncture needle. In most cases as much serum has been injected as spinal fluid removed, not exceeding 30 c.c.; following the suggestion of Dr. Flexner. But in twelve instances, because of the severity of the symptoms and the height of the temperature—in fact, because we thought it was needed—the amount of serum injected has exceeded that of the spinal fluid removed. Strangely, notwithstanding this fact, the so-called pressure signs and symptoms have been relieved by this treatment.

Many of the patients are temporarily upset by the puncture and injection. They complain of pain in the knees, hips and about the rectum during the injection, evidently referred pains from the lumbosacral roots. These sometimes persist several hours. A slight temporary rise in temperature often follows the injection. Urticaria and erythematous eruptions are not uncommon.

It has taken from twelve hours to three days to reap the benefit from the serum. All favorable cases react to a certain extent after one injection. Some cases need but the one injection. Two cases have required six injections and one seven. We believe the serum should be given daily until the drop in temperature and the disappearance of symptoms and signs indicate that the process is arrested. And it should be renewed at any sign of flare-up.

1. The effect on the *temperature* has been to cause a fall in one of two ways—either abruptly or by lysis. Eight cases terminated abruptly and eight by lysis. In the other five the temperature remained elevated—in two due to complicating pneumonia. The other three were fatal. One case remained normal in temperature after a single injection, but the majority showed a rise the next day and required from two to six injections to preserve a normal temperature.

2. With the fall of temperature, in three to twelve hours after the first injection, the *symptoms and signs* begin to clear. The symptoms — delirium, headache, pain in the neck and back, and the general hyperesthesia — disappear with remarkable rapidity. The signs — strabismus, stiffness of the neck, retracted head, opisthotonos, and the Kernig sign — are more persistent. The Kernig is often the last sign to disappear. The result is the unusual picture of a child, bright, cheerful, and alive to its surroundings, but with a stiff neck and back, occasionally in opisthotonos.

3. The effect of the serum on the *spinal fluid* itself is exceedingly interesting. Three changes are brought about:

First, the polymorphonuclear leucocytes are increased in the spinal fluid. This is only after the first injection, and they disappear in the process of healing. From 200 cells to the cubic millimeter they have been increased to as many as 4,000. The influence of this on the leucocytes in the circulating blood is striking. A high leucocytosis, 30,000 to 40,000, is reduced by the demand in the spinal fluid; a low one, 16,000 to 18,000, is increased. In every case there is a very constant, positive chemotaxis for polymorphonuclear leucocytes in the spinal fluid. This has been observed in one case of influenzal meningitis. In six cases of tuberculous meningitis the clear spinal fluid with predominating small mononuclear cells has become clouded with polymorphonuclears after serum, and the small mononuclear cells have totally disappeared. The serum caused no evident change in the two cases of pneumococcal meningitis.

Second, the meningococci, both extracellular and intracellular before serum, become entirely intracellular, so that it is often difficult to find organisms outside of cells in specimens after serum. This was observed also in one case of tuberculous meningitis and in the influenzal meningitis.

Third, as they become intracellular they are being destroyed. They no longer stain deeply and distinctly, but are ill-defined and hard to see. They resemble granules rather clear-cut diplococci. This is evidenced by the cultures. The number of colonies from approximately the same amount of centrifugalized sediment are reduced from 200 to 300 down to 8 or 10 after one injection of serum. Most cultures have been sterile after two injections, several after one.

CONCLUSIONS.

In conclusion, from this small experience, we may briefly summarize our impressions as follows:

1. All cases of meningitis in which meningococcus infection is suspected should undergo lumbar puncture and serum injection as early as possible.

2. The serum does no harm in cases not of the meningococcal type. It may do good.

3. The course of the disease is changed by the serum. The long drawn-out chronic cases are not seen, and the terrible sequelæ—often worse than death—are rare.

4. As to the character of the serum, the rapidity with which signs and symptoms disappear suggest an antitoxic property: the positive chemotaxis for polymorphonuclear leucocytes, and the promoted phagocytosis are most definite and constant features; finally, the reduction in the number of diplococci, the change in their staining properties, and the loss of viability speak for a bactericidal power—although it is a question if this may not be explained by the phagocytosis.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. LADD AND SLADEN.

Dr. William S. Chase, Akron, Ohio: During the epidemic of cerebrospinal meningitis that occurred in Akron in the latter part of April and in the months of May and June, 1907, there were 22 cases of this disease. Of that number, 12 patients received the antiserum intraspinally; 10 did not receive it. Of the 12 treated with the serum, 9 recovered and 3 died, a mortality of 25 per cent. Of those not receiving the serum, 1 recovered and 9 died, a mortality of 90 per cent. Of the 3 patients who received the serum, 1 was moribund at the time of receiving the injection; another case was of the fulminating type, the type that Dr. Flexner has considered hopeless: the third patient received 15 c.c. of the serum twenty-four hours after the onset of symptoms, and the reaction was as marked and striking as in any case that went on to complete recovery. But this patient died suddenly and without warning. An autopsy was not permitted. If one or two of these fatal cases could be eliminated, there would be shown about the same percentage of recoveries when the serum was used as the percentage of deaths when it was not used. These figures, taken from the same epidemic, he regarded as most impressive. All the patients who received the serum were treated at the Akron City Hospital. The clinical diagnosis in each instance was made by an examination of the cerebrospinal fluid and the detection of the *Diplococcus intracellularis.* In the first case, which immediately followed those seen at Castelia by Dr. Ladd, we, the members of the staff, were in doubt regarding the dosage and did not give over 10 c.c. There was nothing at that time to govern the dosage in human beings. The first two cases, while each patient recovered, ran a prolonged course. We were careful at first not to inject any more serum intraspinally than the amount of fluid they withdrew: therefore, in one case 5 c.c. were given as an initial dose. Afterward we disregarded this rule as an unnecessary precaution. Only two cases showed any pressure symptoms, and in both of these we were careful not to inject more serum than fluid withdrawn. The effect of the serum when injected intraspinally has already been described in detail by Dr. Barker. I wish to lay special emphasis, however, on the point that the effect of the serum in ameliorating the symptoms can not be given in a statistical report or be depicted graphically on a clinical chart. One must see these cases in order to realize the general improvement coming within twenty-four hours after the injection. In the first one or two cases we wanted to see if the same results followed lumbar puncture without the injection of serum. The reaction was not marked. There was no striking drop in the temperature and no amelioration of mental symptoms. We did this because we had practically nothing to guide us in reaching a conclusion as to the relative merits of the serum. I agree with what the other speakers have said in regard to the necessity of making intraspinal injections early in order to get the best results. In my series of twelve cases benefit followed the intraspinal injections of the serum even in cases which had run a course of ten or fifteen days. In one case, which had been a very severe one (all the patients treated by the serum were comatose or delirious at the time of receiving the first injection), the patient did not get the serum until the tenth day and then received but one injection. Marked improvement followed and the temperature dropped to normal in twenty-four hours. In another case the injection was made on the tenth day with a similar result. The temperature fell to normal and the patient passed from a period of wild delirium to one of perfect quiet. He made a complete and quick recovery. What impressed me very much about the cases in which the serum injections were given was the absence of sequelæ. In no case were there any of the eye or ear symptoms which usually follow the epidemics of cerebrospinal meningitis. The only sequela which persisted in any case was in one patient, a partial paralysis of the leg muscles. This case ran a course of five or six weeks. Five cases terminated by crisis; four by lysis. None of the patients received any medication whatsoever, except where it was necessary to give an injection of morphin or hyoscin to quiet the severe delirium.

Dr. Frank S. Johnson, Chicago: I have a patient at present under my care who was treated with the serum. This case had a gradual onset. and not until the patient had been in the hospital for some time did we procure the serum. During the early stages the patient, a boy, had no mental impairment whatever. There was a gradual onset of the cerebral symptoms. When he received his first injection, however, he was delirious. Fifteen or 20 c.c. of cerebrospinal fluid were withdrawn and the same amount of serum was injected. After the first injection the patient's temperature fell, but the delirium continued and it was necessary to give a second injection, and more injections; in two weeks this patient had received 200 c.c. of Flexner's serum. Finally the delirium disappeared. After the last injection there was a slightly elevated but fluctuating temperature. This I attribute to an incomplete destruction of the infection or perhaps to the effect of the serum which was given. There was no complication following the trouble, except a slight impairment in the strength of the left arm and left foot. The patient otherwise made a good recovery.

Dr. Edward F. Wells, Chicago: The only case of cerebrospinal meningitis in which I have seen the serum used was at the Cook County Hospital. This patient was severely ill with the ordinary symptoms that attend this malady. There was mild delirium, unconsciousness, high temperature, etc. He had been sick for four or five days when the first injection of the serum was administered. The fluid recovered from the spinal puncture previous to the injection was exceedingly turbid and the cellular elements so numerous that an accurate count was not practical. Following the first injection there was a marked amelioration of all the symptoms and the character of the spinal fluid changed, becoming clear in a remarkably short time. Altogether three injections were given, the symptoms promptly subsiding, and the patient made a prompt recovery. Two other patients were treated at Cook County Hospital, both with the serum, and recovery followed in these instances as well. Without knowing all the facts in these two cases, I know that both received the serum late, and the symptoms were not so characteristic and the serum did not produce the same changes as in my own case.

In estimating the value of any treatment of cerebrospinal meningitis, it is only fair to say that the malady itself would vary greatly in seriousness and dangers from various causes. I have had occasion to observe two epidemics of cerebrospinal meningitis occurring on virgin soil. In both of these epidemics the cases were exceedingly severe and had a high mortality. In both, as time went on, the malady became less severe and there was a larger proportion of recoveries. In Chicago we have had cerebrospinal meningitis with us since the World's Fair, and the disease has been rather mild. At this stage in the estimation of the value of Flexner's serum I am of the opinion that personal impressions should be considered rather than the statistics. I wish mildly to criticize Dr. Ladd in this. When one cuts out of his statistics a certain class of cases, as Dr. Ladd did, much force is lost. I suggest that when one begins to eliminate certain classes in a series of cases, a beginning should be made at the other end by a plain statement that in this series, for instance, 36 per cent. would recover in any case with ordinary or no treatment. Dr. Chase, in his published paper, stated that out of 12 patients 9 recovered under the serum treatment, while of 10 patients who had not received the serum treatment 9 died. Now when such statistics, accompanied by the statement that the physician's opinion, based on personal observation of the cases, was favorable to the usefulness of this serum, was presented to us we should sit up and take notice.

Dr. Joseph Eichberg, Cincinnati: During the last two months epidemic cerebrospinal meningitis has been prevalent in Cincinnati, and from 15 to 18 hospital patients have been treated with the serum. Cultures were taken at the time the first injections were given, and the cases were known to be distinctly epidemic cerebrospinal meningitis, the symptoms usually being very severe when the puncture was made. The observations made on these cases are as yet incomplete, but they substantiate what has been stated in regard to the immediate benefit afforded by the use of the serum. I think it is justifiable, even if later studies do not establish the curative value, to give the serum as soon as the diagnosis is made. The results from the serum in patients over 30 years of age in our series of cases were not as good as were secured in the younger subjects so far as the primary effects were concerned. The best results were obtained in those patients whose ages ranged from 8 to 25 years. In two cases there appeared a papular eruption very much like that of measles, except that the papules were much larger. They were crescentic in shape and tended to become confluent: this eruption appeared in two patients and within twenty-four hours after the use of the serum in both instances. It caused little inconvenience At the point of the introduction of the injection, local anesthesia was at first produced by means of ethyl-chlorid spray; this sometimes results in a deep and extensive ulceration about the point of introduction of the needle, as the local nutrition was interfered with in consequence of pressure after the freezing After this experience we gave the patient a few whiffs of chloroform and discarded local anesthesia. I think that it is still too early to judge of the curative effects of the serum because of the great variability of the virulence of the epidemics. In the present epidemic the percentage of recoveries is high. But it seems to me that we are justified in using the serum because of the immediate primary change in the symptoms and the favorable turn produced evidently by the serum There is the immediate relief of the headache a decline in the fever, a marvelous clearing up of mental symptoms, a subsidence of the delirium, all caused by this serum reminding one of the clearing up of the symptoms in diphtheria under the influence of the antitoxin

Dr. D. E. English, Millburn, N. J. Does Dr Ladd give 30 c c of serum intraspinally at the first injection Does he give the amount of serum that corresponds to the amount of cerebrospinal fluid removed? Or does he try to take away more fluid than he wishes to give of the serum? Is the subcutaneous dose larger than the intraspinal dose?

Dr O M. Gilbert, Boulder, Colo - I chanced to see a case of cerebrospinal meningitis in a specially severe epidemic in which the streptococcus was more in evidence than the *Diplococcus intracellularis*. The bacteriologist who made the examination first reported back that it was a case of pure streptococcus: but later the diplococcus was found The giving of 20 c c. streptolytic serum resulted in recovery. We had no Flexner serum Eighty per cent of our patients had been dying Would not the streptolytic serum be of value when both germs are demonstrated?

Dr. L W. Ladd, Cleveland. I have had little experience in the use of the Flexner serum in other than the meningococcus type of cerebrospinal meningitis I have used it in several cases of tuberculous meningitis, but without any result whatever In one case of meningitis in which streptococci and an unidentified streptothrix were associated I used the serum The patient was moribund when seen and died three hours afterward In Wheeling, West Virginia, I saw a case which I thought one of tuberculous meningitis Lumbar puncture was performed and an increased amount of spinal fluid obtained under considerable pressure, but examination of the fluid showed a normal cell picture and no micro organisms could be found on coverslip or by culture. Following the puncture and giving of serum this patient recovered but was not included in the reported series I have used the antistreptococcus serum in one case only This was the case of a child who had had otitis media followed by a mastoid infection and later complicated by meningitis Lumbar puncture was performed and a very thick purulent fluid was obtained in which streptococci were present in large numbers. The antistreptococcic serum was used repeatedly and was followed by some apparent benefit, but death ensued in spite of the serum The cases which I reported were all meningococcus infections There were no mixed infections and with one exception the meningococcus was present in all In answer to Dr English's question I generally give the serum intraspinally but sometimes both intraspinally and subcutaneously When little fluid is removed by lumbar puncture I give more subcutaneously. The amount given intraspinally depends somewhat on the amount of fluid withdrawn If a large amount is obtained 30 c c are injected intraspinally I follow the rule of withdrawing the fluid until it flows drop by drop as under normal conditions Serious symptoms have followed the withdrawal of too much fluid at one time. In answer to Dr Wells' criticism of my paper, I have purposely given statistics, in the first place including all cases irrespective of their condition when first seen and irrespective of the length of time which had elapsed after onset of the case and then ruling out such cases as were manifestly unfair tests of the efficiency of the serum. Surgeons have had great trouble in educating the medical profession to turn over to them their cases of appendicitis for operation, before symptoms of general peritonitis developed, in order that the result might be most favorable to the patient The same necessity of early diagnosis and early use of serum is present in the treatment of this disease, and comparative statistics show this strikingly. Ruling out the moribund patients in those seen seventy two hours or less after onset, 93 per cent. recovered All of the patients 5 in number seen twenty-eight or less hours after onset recovered. Sometimes of course, it is impossible to make a diagnosis as soon as desirable With regard to the nature of the substances active in the serum, I do not think that Dr. Flexner has absolutely committed himself It certainly is true that phagocytosis is stimulated, and in view of the fact that the meningococci after the use of the serum were reduced in numbers and stained poorly and that the patients treated cleared markedly in mentality, it seems reasonable to suppose that the serum is both bactericidal and antitoxic in its action

Dr Frank J Sladen, Baltimore At a recent symposium on this subject before the American Pediatric Society Dr Flexner reported an analysis of 380 cases in which the serum had been used The mortality for 247, the number in this country, is about 27 per cent At this time also Dr. Dunn of Boston reported 40 cases with 9 deaths, 22.5 per cent. mortality Dr Churchill of Chicago had a mortality of 22 per cent for 9 cases And Dr Wilkinson of Washington D C, reported 3 deaths in 10 cases The comparison of these statistics with those of the New York epidemic is striking. The mortality for 2,305 cases treated without serum was between 80 and 90 per cent Dr Flexner has committed himself, stating that he believes the power of the serum is chiefly bactericidal He is a pathologist and his opinion is based mainly on laboratory experiments Clinically, however, the rapidity with which the symptoms and signs clear up impress us with the importance of the antitoxic property

Dr. C. F Hoover, Cleveland One point brought out in this discussion should be appreciated by every physician, viz., the need of giving the serum as early as possible to anticipate the encephalomyelitis which results from meningo arteritis which has lasted several days

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URETERO-VESICAL IMPLANTATION. A NEW METHOD OF ANASTOMOSIS.

WITH REPORT OF CASES.

R. L. PAYNE, Jr., M.D.
NORFOLK, VA

Case 1.—*Patient.*—Annie G., aged 30, colored, was admitted to St Vincent's Hospital, January 30, suffering with large bilateral pus tubes The pus sacs were removed through an abdominal incision and drainage instituted The wound healed up to a small sinus, when on the fourteenth day following operation urine began to flow from the sinus and a diagnosis of uretero abdominal fistula was made By the use of the cystoscope and ureteral catheters it was determined that the left ureter was the one affected and two weeks later I performed the following operation

Operation.—An incision was made from the lumbar region obliquely forward to the middle of Poupart's ligament, cutting down to the lumbar and subperitoneal fat behind and to the peritoneum in front The peritoneum was then gently stripped inward from off the psoas muscle and iliac bone until the ureter was located at the bifurcation of the iliac artery The ureter was deflected with the peritoneum It proved to be very large and thickened and stripped from the membrane very easily It was then freed down to the fistula tract where the opening of the ureter proved to be very small and strictured When stretched tight it lacked two inches of meeting the bladder, and I found that the injury to the ureter was behind the base of the broad ligament The vesical stump was buried and hidden in a mass of inflammatory exudate, and no attempt was made to free it. I then stripped the peritoneum backward *from the bladder*, loosened the bladder from its attachments on either side, and with the aid of a sound passed through the urethra into the bladder by an assistant, pulled the organ to the left and upward, thus elongating it into a diverticulum effect. The bladder was then fixed in this shape and sewed with catgut to the pelvic fascia both above and below the external iliac artery. This elongation upward of *the bladder permitted a good* approximation of the shortened ureter and the anastomosis was made by the method herein described. When the anastomosis was completed I found that too much of the ureter had been used for the anastomosis and that the duct was rather taut. I was afraid to leave it thus, fearing that the anastomosis might tear out, so I proceeded to lower the kidney a sufficient distance and fix it to relieve the strain. A small gauze drain was passed through the abdominal opening of the original sinus tract backward to the retroperitoneal point where the end of the ureter had been dissected out and another small drain placed from this point out through the loin space. Thus there was a gauze drain running straight through the patient, beginning *in front just below the navel and emerging* in the lumbar space behind, the whole drainage tract being extraperitoneal. The muscles and fascia were closed in layers by chromic gut, and the skin by interrupted silk sutures.

Postoperative History.—The patient was catheterized every four hours for the next five days, and at the end of this period she voided without much pain. A week later this difficulty had about disappeared, *and it is interesting to know* that a normal bladder can undergo such a transposition without interfering with the urinary function. The drain passed into the sinus tract was removed *on the third day, and this* portion of the drainage canal healed up in three more days. The drain in the loin, however, continued to discharge a seropurulent matter for about two weeks, and I thought that it was a leakage from the vesical stump of the divided ureter This stopped, however, and with the exception of three small stitch abscesses the wound healed rapidly. The patient was walking around at the end of the fourth week and has had no trouble up to the present time.

Witzel was the first to elongate the bladder for a shortened ureter, and Baldy has since reported a case in which he sewed the bladder to the stump of the broad ligament. Several years ago Bovee successfully lowered the kidney in a dog for a shortened ureter but as far as I can find, the case herein reported is the first instance in which the procedure has been carried out on a human being.

Since Simon in 1869 first recommended nephrectomy for ureteral fistula, many prominent surgeons of the world have been striving to perfect operative means which would obviate the necessity for this radical measure.

Several varieties of uretero-ureteral anastomosis have been devised, none of which has proven entirely satisfactory or simple in the hands of the average good surgeon, and so the abnormal varieties of implantation into the colon, rectum and skin have been practiced in a limited number of cases.

It is certain that nephrectomy has been and is still too readily looked on as the proper panacea for the awful conditions resulting from ureteral fistula, and many a healthy kidney has been sacrificed without previous effort to cure the fistula by more conservative methods.

Of all the various plastic procedures for the relief of ureteral fistula, ureterovesical implantation is undoubtedly the best, for it reestablishes a natural state of things, cures the fistula and above all else conserves the kidney. So far as the kidney is concerned, the same can not be said of grafting into the bowel or on the skin, for infection invariably follows and nephrectomy becomes a necessity.

Of the two latter measures bowel implantation is preferable to skin implantation, but since both are done, except in exstrophy, because of a shortened ureter, neither procedure is justifiable provided the pedicle of the kidney is long enough to permit of its being lowered.

Van Hook says that intestinal implantation is unjustifiable and Byron Robinson reports that in his cases of intestinal implantation in animals all the subjects died from peritonitis.

The objections to vesical grafting in cases of ureteral fistula have been that it could be applied only to those cases in which the injury is very close to the bladder; for a ureter severed at the base of the broad ligament, behind the uterus, or higher up, would not permit of the renal stump approximation with the bladder. It is true that the ureter is very elastic and hence amenable to much stretching, but traction largely reduces the possibilities of anastomotic union and at the same time tends to lessen the lumen of the duct and thus contributes a factor in the induction of hydronephrosis, the greatest danger of ureteral anastomoses. This source of danger can be overcome by lowering the kidney as was practiced in my case.

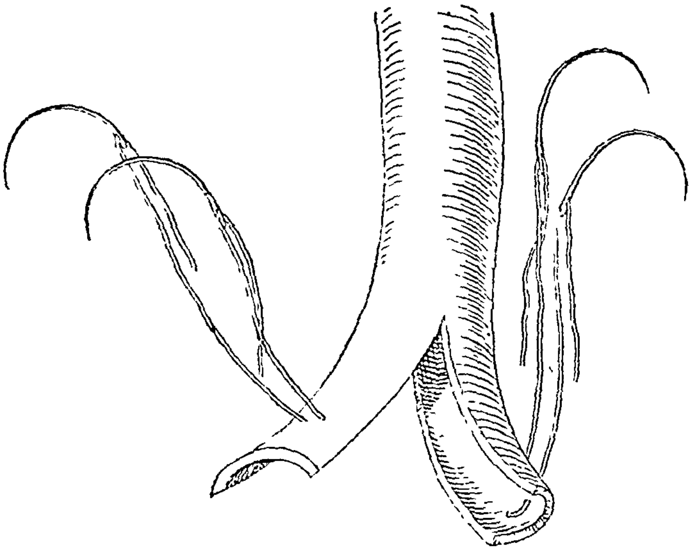

Fig 1 Ureter split and traction sutures passed.

The other objections to the various modes of ureterovesical implantation are, first, stenosis, which is apt to occur at the site of vesical grafting and, second, the danger of infection from ascending septic processes. Regarding these two points I believe that the method of anastomosis herein described and illustrated in Figures 1, 2 and 3, presents points in its favor which tend to obviate these results.

By the common method in vogue the severed ends of the ureter is united flush with the bladder wall, mucous membrane to mucous membrane and when the process of cicatrization takes place a resulting contraction and stenosis must follow. To correct this, several operators have followed the plan of Van Hook, splitting the ureter on one side only, flaring the end and thus uniting the ureter into the bladder.

By the method adopted by myself the ureter is split up on two sides, thus forming separate flaps and when these are drawn down into the bladder by traction sutures and fixed on each side of the vesical incision there is a resulting ureteral opening which is larger than the caliber of the tube and around which there are no sutures or united mucous margins to undergo cicatrization and subsequent contraction. The union of these flaps to the mucous membrane of the bladder was at first a matter of doubt, but I can assert that in the cases in which I have used this method the flaps do unite firmly and at the same time atrophy and smooth off to the bladder wall. Most probably the fibrous union begins in an erosion around the traction sutures but in any event firm union does take place, for with the cystoscope I demonstrated not only the fibrous fixation of the flaps but a large funnel-shaped ureteral opening with no tendency toward contraction. These cystoscopic examinations were made at intervals of three weeks to three months following operation.

Thus I believe that I have a method of anastomosis in which the possibilities of stenosis are very small, thereby eliminating the great danger of all forms of ureteral implanation, whether into bowel, skin, bladder or vagina —resulting hydronephrosis being the common sequel of all forms of experimental ureteral grafting.

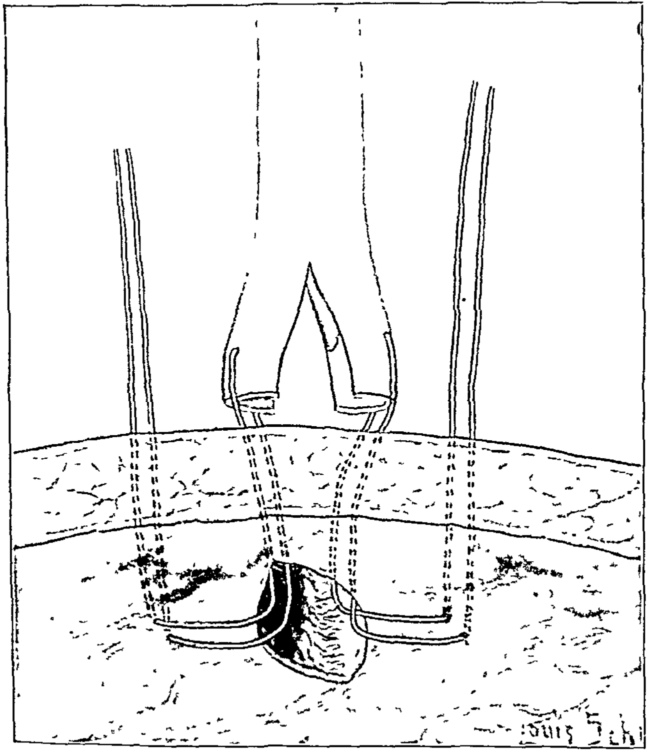

Fig. 2.—Traction sutures passed through incision and out through bladder wall ready for tying.

How infection takes place following a ureteral grafting I do not think any one knows. The common theory is that it is due to the loss of the valve-like opening of the normal ureter and the substitution of an orifice which is patent, thereby allowing regurgitation of infected urine from the bladder. I believe that regurgitation does not account for these infections, but that infection is due to the stenosis following the method of anastomosis, thus forming obstruction to the free discharge of urine into the bladder.

In support of this assumption I present two cases of ureteral fistula in which the severed end of the ureter was markedly strictured, the ureter dilated and thickened, and a pronounced pyuria present. The strictured ends were cut off, the anastomosis into the bladder completed by the flap method herein described, giving a wide patent orifice and in three weeks' time the pyuria in each case had entirely disappeared.

Granting, however, that this regurgitation does take place after ureteral grafting, I do not believe that there is any valve to a normal ureteral orifice which prevents this happening, for Pozzi, Modkinsky and Desnos report cases of leakage of urine from the bladder through the vesical stump of a divided ureter, Hartman reports leakage following a nephrectomy and I have reason to believe that the same thing happened in one of my cases. Certainly there are thousands of cases of ascending renal infection in which the ureters and bladder are anatomically normal. Polk did a successful bladder implantation of ureter following resection for cancer. A second operation for return of cancer revealed a dilated and thickened ureter which he considered due to constriction at the point of anastomosis.

I believe that infection of the ureter and renal pelvis of the affected side is always present in ureteral fistula and since this condition cleared up rapidly in my cases after anastomosis by the flap method, I am led to believe that regurgitation plays a small rôle, if any, in ascending infections following ureterovesical grafting. If I believed otherwise, then the method of anastomosis herein described should be condemned, for with the resulting wide opening ample chance for regurgitation is offered.

Free drainage is the great surgical principle in the relief of all infections and no ureter or kidney already infected can be rid of this condition while stenosis exists at the ureteral orifice.

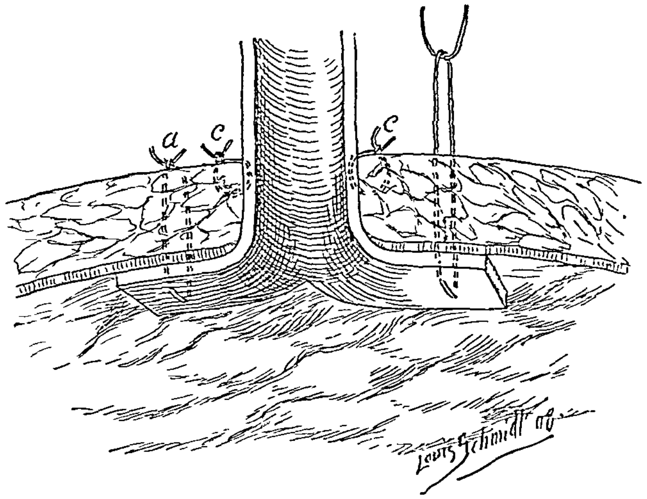

Fig 3.—Cross section of anastomosis complete; (a) traction suture tied; (c) vesico-ureteral sutures tied.

While the urine is being poured into the bladder the organ is in a quiescent state and it empties itself by a contraction of its musculature, which is composed of an inner and outer longitudinal and a middle circular layer. Now if the site of ureteral implantation be made at the summit of the bladder to further prevent regurgitation, and the ureter passed directly through the bladder wall, hence through this mesh-like arrangement of muscle fibers, it seems reasonable to conceive that vesical contraction would produce a valve-like constriction of the ureter, thereby preventing any forcible regurgitation. This procedure was followed in my cases.

Several operators have endeavored to imitate the normal oblique course of the ureter by folding the bladder around the ureter. This was first done by Witzel, after the manner of folding a handkerchief around a pencil (Fig. 5). If this method is used it can be readily seen how, when vesical contraction takes place.

instead of contracting with a valve-like action the walls of the ureter are held apart and regurgitation favored.

Some operators, originally Witzel, claim for this last procedure the advantage that it further anchors the ureter to the bladder and hence prevents any tendency for sutures to tear out at the site of anastomosis. This seems very commendable, but I believe that the two flaps produced by the method described herein, when united to the bladder, result in a sufficient fixation of the ureter to bladder to afford strong union.

If there is any doubt in the mind of the operator regarding the union of these flaps he can readily resect a little of the mucous membrane on either side of the vesical incision, thus securing approximation of connective tissue to connective tissue. The use of the traction sutures further facilitates the anastomosis by affording a quick simple adjustment and firm fixation of the ureter while the anastomosis is completed with the vesico-ureteral sutures. Kelly attained this end by grasping the end of the ureter with long forceps passed through the urethra into bladder. Markoe used a small catheter passed up the ureter, across the bladder and out the urethra, while Kaysar held his ureter in place by long sutures passed through the end of the ureter and drawn out through urethra, fixing them to a weight or the external dressing.

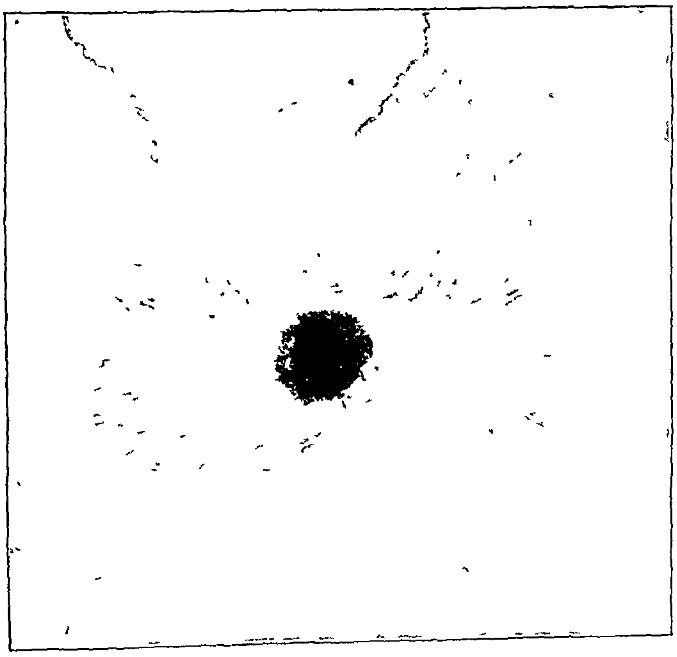

Fig. 4.—Cystoscopic view of anastomosis healed

As regards the method of approach to the ureter I think that the extraperitoneal route incurs not only considerably less risk to the patient but affords a freer access to the ureter and plenty of space through which to work. Baumm was the first to do an extraperitoneal operation, while Tauffer, Markoe, Bazy and Navarro employed the transperitoneal route. Albarran made his approach by the hypogastric route while Delbet used the L-shaped incision over the sacrum advocated by Kraske.

In reviewing the literature I have been able to collect seventy-seven cases of ureterovesical implantation with thirteen deaths, giving a mortality of 16.08 per cent. Of these seventy-seven cases, thirty-eight were intraperitoneal operations with eight deaths, a mortality of 21 per cent. Eleven cases were extraperitoneal with one death, a mortality of 9.09 per cent., while in the remaining twenty-eight cases there were four deaths and the method of approach undetermined. Thus statistics point with greater favor to the extraperitoneal route.

I make the lumbo-ilio-inguinal incision beginning in the loin one-half inch below the last rib and at the outer margin of the erector spinæ muscle. This runs obliquely downward parallel with the last rib to a point one inch inside the superior iliac spine and is then prolonged downward parallel with Poupart's ligament by cutting with scissors while the peritoneum is separated with the forefinger.

Although this is a long incision, the important structures cut are very few. Posteriorly the subcostal artery and vein and last dorsal nerve should escape, and cutting forward the only other structures severed besides the muscles are the lateral cutaneous branch of the last dorsal nerve and the superficial and deep circumflex iliac arteries. The hypogastric branch of the ilio-hypogastric nerve which runs parallel with the wound should escape cutting.

The shock following the extraperitoneal operation is small compared to that of any intra-abdominal work and the fact that by the intra-abdominal route the peritoneum is cut both in front and behind, that the sympathetic nerve supply is vastly disturbed, combined with the imminent possibility of infection, should always make the extraperitoneal operation the one of election. In conclusion I report a second case in which the patient was operated on successfully by the method described.

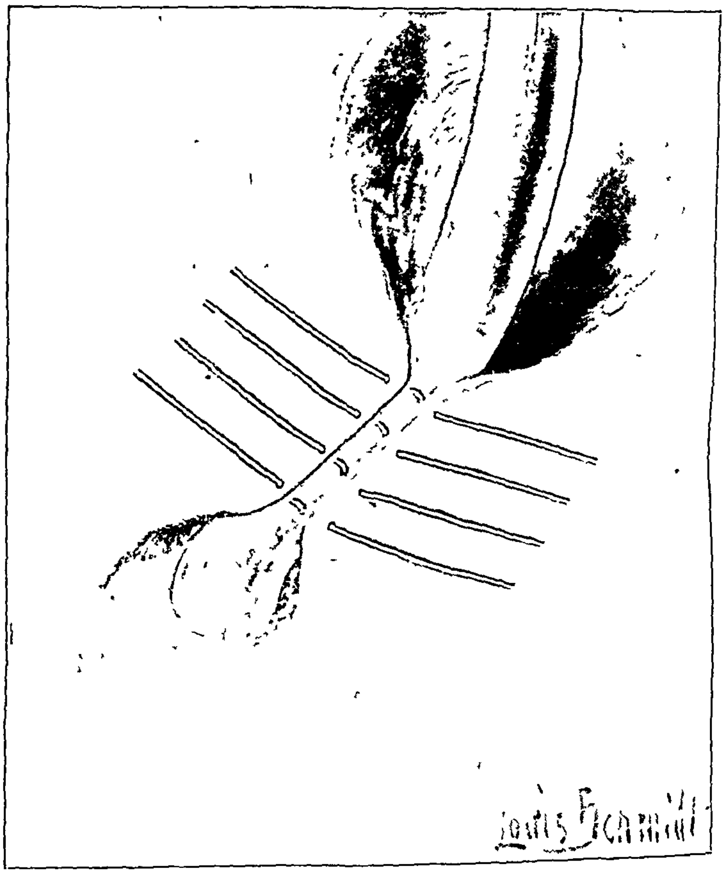

Fig. 5.—Witzel's method.

Case 2.—*Patient.*—Miss S., aged 26, white, was referred to me by my father. She had had a panhysterectomy done on her five months previous, and five days following the operation urine began to flow from the vagina. I found the left ureter discharging into the left vaginal fornix and a vagina so small that it was impossible to do any sort of plastic operation through this channel.

Operation.—The lumbo-ilio-inguinal incision was made, and the abdominal flap together with the peritoneum was turned inward. The ureter was located at the crossing of the iliac artery, and since hysterectomy had previously been done I had no difficulty in freeing the duct down to the vagina. It had been tied about the cervix uteri and hence I had a full-length ureter to transplant into the bladder. The orifice of the ureter was markedly strictured and the whole tube thickened and dilated. The ureter was split upward about one and one-half centimeters, making two lateral flaps, two chromic gut sutures were passed and the bladder incised at the point of selection. Boldt advises distention of the bladder with water to aid in selecting the point of anastomosis, but I think that this contributes towards the possibility of infection from leakage through the incision. In my cases the bladder was emptied and then cut on the point of a male sound, while an assistant made the bladder pouch at the desired point. The incision was about one and one-half centimeters long, and the edges at once grasped with forceps and held up. The needles carrying the traction sutures were then passed down through the incision and made to pierce the bladder from within out and at a point distant from the margin of the incision equal to the length of the ureteral flaps. These traction sutures were then tied and the anastomosis completed by four vesico-ureteral sutures. The wound was closed in layers and healed by first intention.

Postoperative History.—Before the operation the patient was voiding daily from her bladder about sixteen ounces of urine, and the first twenty-four hours after operation she passed thirty-four ounces. On the fourteenth day the patient was out of bed and the pyuria which previously existed had entirely cleared up at the end of three weeks. Five and six months, respectively, have elapsed since these operations, and the results up to the present time have been perfect.

Clinical Notes

ETHMOIDAL PERFORATION OF THE INNER CORNER OF THE EYE AND INVOLVEMENT OF THE ANTRUM OF HIGHMORE.*

CULLEN F. WELTY, M.D.
SAN FRANCISCO.

Patient.—C., male, aged 70, single, had always been healthy.

History.—Two weeks before consulting me he noticed a swelling over the right eye, which increased in size daily (Fig. 1). The pain and temperature also increased from day to day. Temperature was present, 104. He had never noticed a discharge from his nose. He has good sense of smell and no odor in the nose.

Examination of the Nose.—Right side, large roomy nose. Middle turbinate, perfectly healthy; middle meatus, roomy and free from pus. Olfactory fissure was free from pus. Probe puncture of the antrum of Highmore brought a large quantity of offensive and cheesy pus.

Treatment.—In order to cleanse the pus cavity, the incision had to be carried as far back as the ear. From the center of this incision another one was made at right angles extending almost to the vertex. A fistula leading to the upper, and another to the lower lid was opened at the dependent point, and gauze introduced through the fistula. Very careful search was made for the bony fistula, but it could not be found. Further operative procedure was postponed until this communication was found.

Subsequent History.—In three weeks the various incisions had healed with the exception of a small sinus that continued to discharge just above the outer angle of the eye. A canula was introduced and the wound irrigated with sterile water which came through the nose. On further search for the bony fistula it was found to be posteriorly, and above, and on the inner side of the eye. I wish to call attention to this bony fistula occurring so far back, and again to the fact that the fistula discharged at the outer corner of the eye, rather than the inner. I am not familiar with a similar case on record. This fistula was irrigated for about four weeks, but the treatment failed to bring about a cure.

Second Operation.—The Killian operation was recommended and done. The frontal sinus was full of polypi and pus. The anterior and postethmoid cells were a mass of polypoid tissue. Sphenoid cavity was full of polypi.

Result.—Convalescence was rapid. However, some pus continued to come from the sphenoid cavity and a second curettement was necessary which effectually cured the discharge. A short time after the radical operation was done on the antrum of Highmore. The outer incision closed by interrupted sutures (Fig. 2). The antrum of Highmore was completely filled with polypi, granulation tissue and cheesy pus, which was very offensive. There had been such extensive destruction of bone that the antrum extended to the median line of the hard palate. The bone that remained of the hard palate was paper thin.

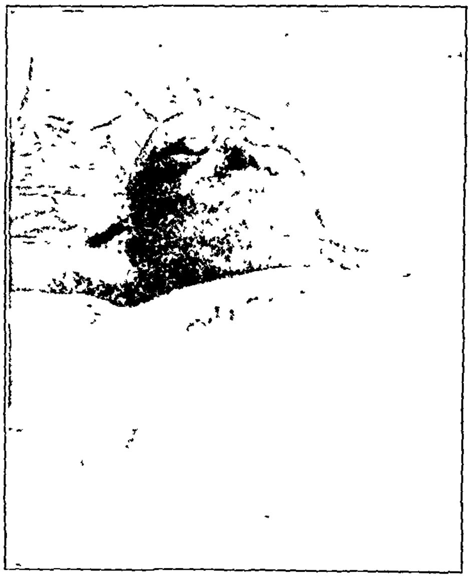

Fig. 1.—Showing patient before operation.

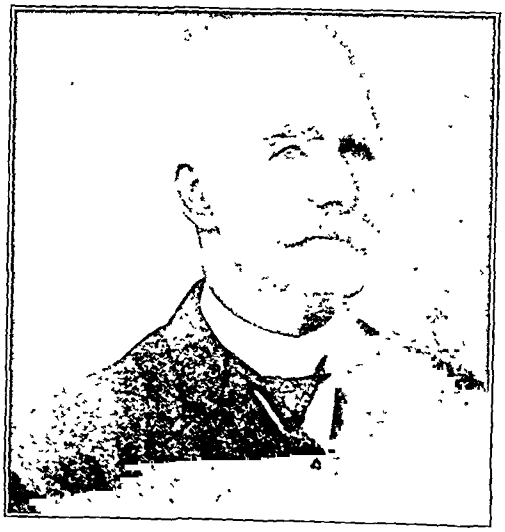

Fig 2.—Showing patient after operation.

I wish to call especial attention to this case as I do not find a similar one on record in Zuckerkandl's work on "Anatomy and Pathology of the Accessory Sinuses of the Nose." Neither does Hajek.

The floor of the nose was also paper thin; was removed and at present the floor of the nose is the paper-thin bone of the under surface of the hard palate.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The nose was free from pus in a week or ten days following this operation.

The photographs and drawings illustrate beautifully the extensive extravasation of pus, the various incisions that were made, and the pathologic lesions, as well as the cosmetic effect.

HUMAN HORNS.

WITH A REPORT OF TWO CASES.

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Cutaneous outgrowths, evidently horny in nature, have been described by many of the older writers. Aldrovandus, Lusitanus, Boerhave, Dupré and many others cite instances of this anomaly, occurring chiefly on the head. Lamprey, in 1887, published the results of his examination of the famous horned men of Africa. He found that the condition was a curious hypertrophy of the infraorbital ridge. The anomaly was congenital, and interfered with none of the body functions.

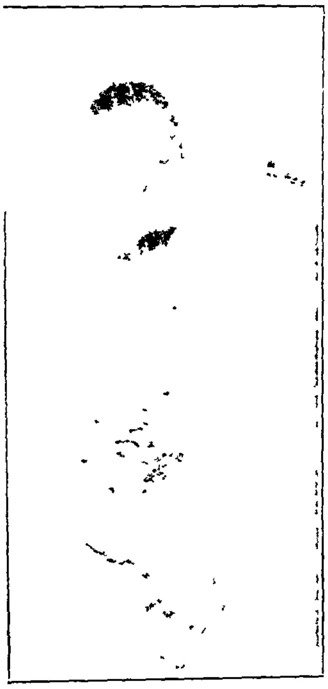


Fig. 1.

Fig. 2.

Fig. 1.—Horny growth on ear of patient 1.

Fig. 2.—Horny growth (epithelioma with horny outer layer of cells) on lip of patient 2.

Cutaneous horns may occur at any age, in almost any part of the human body, and in either sex. A few cases (four in all) have been reported as occurring in children. The majority of cases (approximately 80 per cent.) occur in people past 60. One case has been reported occurring in a person aged 93. As to the involvement of either sex, an analysis of 167 reported cases shows 97 to be in females and 70 in males. As to the frequency of occurrence in various portions of the body, the following table shows the result of an analysis of 167 cases:

Head, face and neck	83
Trunk	27
Extremities	37
Genitals	20

As will be seen, the greater number are found on the head; and of the various head regions, the forehead is the seat of preference. The eye, ears, nose, cheek and scalp have also been affected. On the trunk horns occur in the axilla, on the breast, buttock and back. Both penis and clitoris have been affected. Horns have been found on the elbows and in the palms of the upper extremity, and at the knee, and heel of the lower.

In appearance the growths are usually slightly curved and ribbed, varying in color from grey to black. In size they vary from one inch to twelve inches in length, and fourteen in circumference. The microscopic examination reveals a typical nail structure with, at times, malignant changes at the base. As far as can be determined, horns originate in one of two ways: either from what is described as a sebaceous cyst or from a wart, the outer layers of which undergo hornification. In a few cases, however, the original cause seems to have been a constant irritation, such as would ordinarily produce a patch of callous skin. In the majority of cases the horn, when removed, did not recur, but in 14 per cent. (approximate) the bases of the growths proved to be epitheliomatous in character. Aside from the disfigurement, they give rise to no symptoms and their treatment is surgical, namely, extirpation.

The following two cases show both types in contrast:

CASE 1 (Fig. 1).—*Patient.*—L. B., female, aged 74, past and family history negative.

History of Growth.—About ten years ago the patient noticed a small wart on the lobule of the left ear. This gradually grew in size, became hard and like a finger-nail. About four years ago when two inches in length it was partly removed. It again increased in size and because of the disfigurement the patient asked to have it removed.

Examination.—From the lobule of the left ear there was hanging a ribbed, dirty gray, crescent-shaped mass about two inches long and one inch wide. The base ended smoothly at the cartilaginous rim of the ear and was not indurated. The mass was freely movable over the cartilage, hard, and without sensation. There were no signs of inflammation and no enlargement of neighboring lymph glands.

Operation.—The skin at the base of the growth was incised and the mass shelled off.

Microscopic Examination.—This showed the subcutaneous fat to be normal except that the fibrous tissue was slightly thicker and that the various trabeculæ joined and penetrated the center of the horn in a thick bundle. The basement layer of epithelial cells of the skin merged gradually into the large squamous cells of the growth. There was no sharp line of demarcation. The cells of the growth were very large, long and flattened, about eighteen or twenty times the length of a red blood cell. Many contained vacuoles.

CASE 2 (Fig. 2).—*Patient.*—F. S., female, aged 50, past and family history negative.

History of Growth.—About three months ago the patient noticed just to the side of the right nostril a pimple. This gradually grew larger, but gave no pain and did not discharge or bleed. About two months ago she noticed that the top became very hard and nail-like and rapidly increased to the present size, still, however, giving no discharge either of pus or blood.

Examination.—To the right of the right nostril and one-half inch above the margin of the lip was a conical mass one inch in height, black at the upper two-thirds, dark red below. Palpation revealed a hard indurated base firmly attached to deeper structures and a hard horny mass covering the same. There were no enlarged glands.

Operation.—The base of the mass was surrounded by an oval incision and the mass cut loose from deeper structures. It could not be shelled out, being too adherent.

Microscopic Diagnosis.—Epithelioma with hornifications of the outer layers of cells.

222 West One Hundred and Thirty-sixth Street.

TWO PRACTICAL INSTRUMENTS FOR USE IN KIDNEY SURGERY.

WILLIAM E. LOWER, M.D.
CLEVELAND.

KIDNEY FORCEPS.

The difficulty often encountered in bringing a kidney into the wound for inspection or excision must be apparent to every one who has had considerable experience in kidney surgery. Heretofore no instrument, to my knowledge, has been better than the hand for delivering the kidney, but this requires in most cases a much larger incision than is necessary to deliver the kidney alone. The instruments generally used, such, for example, as the large curved hemostatic forceps, injure the organ if directly applied. In search for an instrument suitable for grasping the kidney and allowing a certain amount of tension, I discovered that the small veterinary obstetric forceps most nearly answered the purpose. From this forceps I evolved the kidney forceps, which is shown in Figure 1. The method of application is also well shown. It clasps the kidney and permits traction through a small incision without injuring the organ itself.

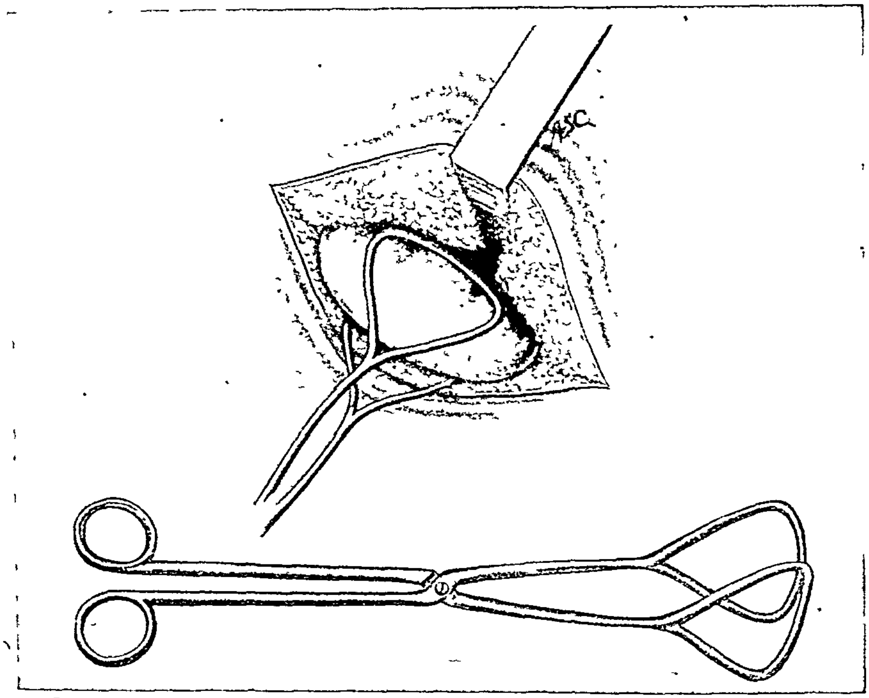


Fig. 1.—Kidney forceps.

VESSEL CLAMP.

In certain operations when it is desirable to explore the kidney I have used a vessel clamp, which is shown in Figure 2. This is an ordinary curved intestinal clamp, the blades covered with rubber tubing and a setscrew substituted for the clutch in the handle. With this clamp the renal vessels may be compressed sufficiently to shut off the circulation without injuring them, and a bloodless nephrotomy done. Compression with the fingers, which becomes tiresome if the operation is prolonged, may by this method be avoided. The advantages over a tape, the fingers, or a temporary ligature are the convenience of application, the regulation of compression by means of the setscrew, the small danger of injury to vessels, and the small amount of space required.

The exact length of time in which anemia of the kidney may be produced without injury to the organ is not definitely determined, but from experimental as well as clinical evidence the length of time required for ordinary nephrotomy may be used without any apparent damage to the kidney.

1021 Prospect Avenue, S. E.

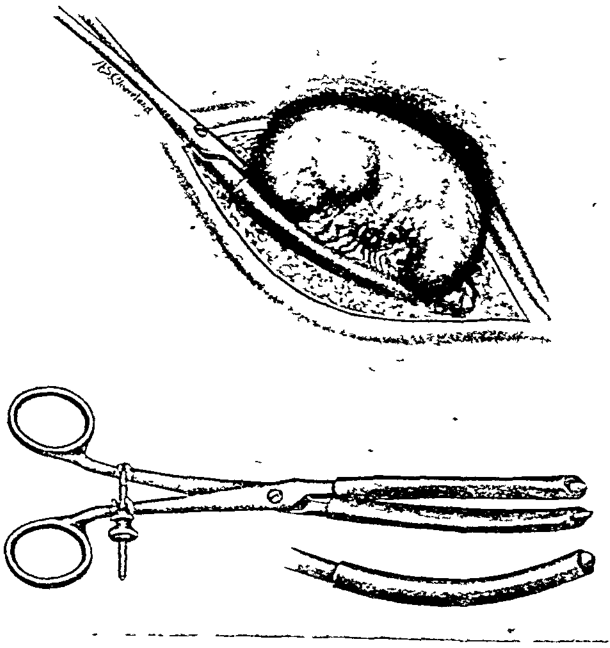


Fig. 2.—Vessel clamp.

Practical Value of Sour Milk.—George M. MacKee, in the *Dietetic and Hygienic Gazette*, states that the present use of sour milk is based on the following attributes: First, the casein has been subdivided and transformed so as to be more readily absorbed than that of sweet milk. This makes fermented milk of great value when a non-irritating, easily digested, quickly absorbed and well-tolerated food is required. Second, as a result of carbohydrate fermentation, sour milk contains lactic acid, which tends to prevent the development of putrefactive and other injurious bacteria, both in the milk itself and in the intestines. Hence, such milk is safer than sweet milk of questionable origin and purity. Third, the carbohydrates have been converted into lactic acid, so sour milk is free from sugar which makes it a valuable aliment for diabetic patients.

bone trauma, a desirable accomplishment, and one which should be employed whenever feasible. A stout tenaculum was hooked around the lower end of the shaft of the bone and by traction brought into apposition with the lower fragment. The deformity, however, recurred as soon as the traction was released. A steel nail one and a quarter inches in length and a sixteenth of an inch in diameter was then driven through the fragments in the manner shown in Figure 2. This effectually prevented recurrence of the deformity. The nail was forced into place with a steel, lead-covered mallet. The limb was then encased in a plaster-of-Paris cast through which the negative shown as Figure 2 was taken. The position of the hand is also shown here. It will be noted that the deformity was not entirely overcome at the end of the operative procedure, but that when union was complete the slight over-riding was entirely corrected. No doubt the position of immobilization is responsible for the additional correction, as shown in Figure 3. The nail was removed at the end of three weeks and the limb immobilized, leaving the wrist joint free. A Pagenstecher thread had been placed around the head of the nail and brought out through a small incision in the skin flap immediately over the head of the nail, with the view, ultimately, of extracting the nail by this avenue. The thread was broken in the attempt, however, and it was necessary to withdraw the nail with a slender forceps. This presented no difficulty. The functional result is perfect. The anatomic result is shown in Figure 3.

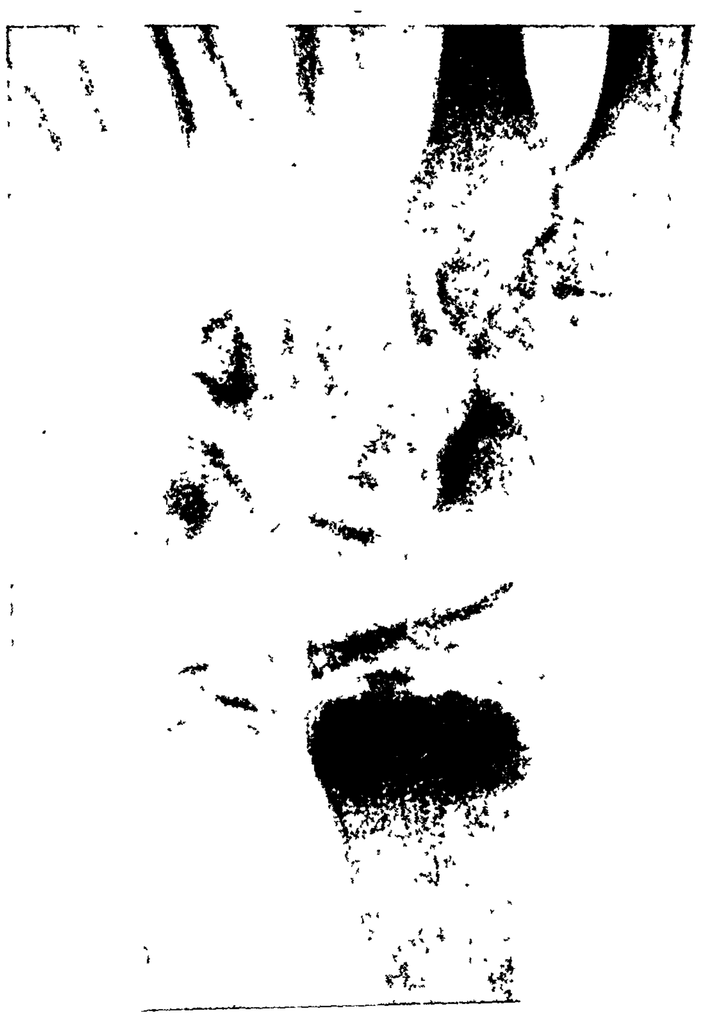


Fig. 3.—Skiagram showing anatomic result of treatment.

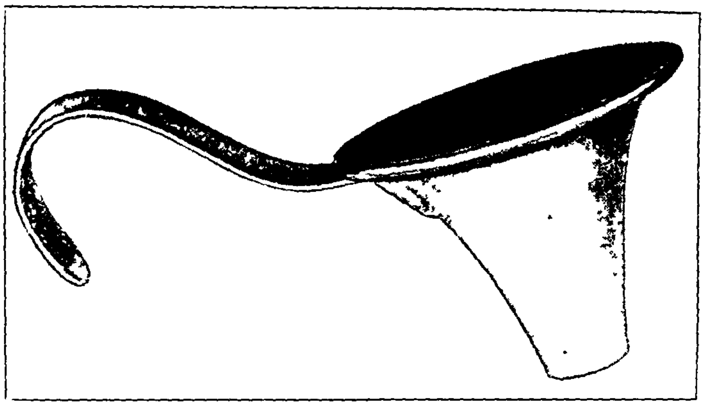
As a general proposition the operative treatment of subfractures is not widely employed, nor is this case submitted with the view of encouraging the indiscriminate employment of the open treatment of fractures. It is offered, however, as showing what the possibilities are when deformity can not be overcome in the usual manner. The danger of infection need only be borne in mind to forestall its occurrence.

15 West Eighty-eighth Street.

EAR SPECULUM WITH HANDLE.

EMIL AMBERG, M.D.
DETROIT, MICH.

In dressing through the enlarged outer ear canal the cavity created by the radical operation for the cure of chronic middle-ear suppuration I have found the ear speculum with a handle very useful. The accompanying illustration shows a modified Boucheron ear speculum. The distal end is shortened and a handle is attached to the rim of the funnel. The end of the handle is hooklike and can be held either with the thumb and the second finger, or, with the second finger alone by bending the same, or, with the third or the fourth finger. In the latter instances some of the fingers are disengaged and can be used for other purposes. The length of the instrument is about 7.5 cm. (3 in.). The handle is about 1 cm. (3/8 in.) wide.



Modified Boucheron ear speculum, natural size.

270 Woodward Avenue.

Special Article

MEDICAL INSTITUTES.

HOW THEY ENTRAP THE UNWARY YOUNG—THE HIBBARD CASE AS AN ILLUSTRATION.

If the United States Circuit Court of Appeals sustains the findings of the lower court, Edward R. Hibbard of Oak Park, Ill., will spend two years in the Chicago House of Correction, besides paying a fine of $1,500 and the costs of the prosecution of his case.

Mr. Hibbard is a man who has been a prominent citizen of Oak Park and whom Edward F. Dunne, former mayor of Chicago; William A. Hutchinson, postmaster at Oak Park, Frederick H. Wickett, attorney at law; C. F. Haffner, member of the Cook County Civil Service Commission, and others have regarded as a good citizen and a good neighbor. As to his general reputation for honesty—"It was good; it was very good." In fact, he was a neighbor to be proud of (so these people thought), and yet it is alleged (and the lower court found him guilty) that while Mr. Hibbard was posing as a model citizen and a bright and shining example for the Sunday-school-going youths of Oak Park, he was running a so-called medical institute, which bore two names because it had two doors, each of which opened on a different street.

TWO NAMES—ONE INSTITUTE.

One door was the entrance to the "Boston Medical Institute," the other the entrance to the "Bellevue Medical Institute." Both "institutes" occupy the same suite of rooms, both have the same managers, the same physicians and the same object.

That object is advertised as the "medical treatment of the private diseases of men"; but the evidence submitted to the United States attorney at Chicago was such that the grand jury found that the object of said institutes was to obtain money through the mails by means of fraudulent pretenses. Government exhibit 69 is a letter from the Boston Medical Institute guaranteeing the reliability of the Bellevue Medical Institute, and correcting a rumor that the latter institution was poor pay.

The modus operandi of this concern was on a par with similar institutes. Pamphlets—a million copies a year—with titles such as "The Army and Navy," "Vim of Life," "Perfect Manhood," etc., have been scattered broadcast, in farmers' wagons, buggies, etc., under the cushions on seats when possible,—where they would be most likely to attract the attention of boys and young men. The most adroit one of these was first mentioned, which purports to give statistics comparing the Army and Navy of the United States with those of other great powers, but which contains articles on "Unnatural Habits," "Insane Asylums," "Lost Manhood," "Spermatorrhea," "Impotency," "Varicocele," "Gonorrhea," "Syphilis," "Specialism in Medicine," a notice about the "Boston Medical Institute," 152 Lake street, Chicago, "the oldest medical institute in the country," and a choice collection of "sworn testimonies" (unsigned) from grateful patients whom this institute had kept from filling untimely graves or from becoming inmates of asylums for the insane.

"The pitcher which goes too often to the well shall at last be broken." Since 1869 the "Boston Medical Institute" had been doing a most successful (financially) mail order business; but finally it undertook to "cure" one Albert Hermann, of Ann Arbor, Mich., and did not succeed; whereupon Albert Hermann claimed the return of his money under the "guarantee" of the institute, and when he found he could not get it he was ready to take action in lieu thereof.

Hence it was that on the nineteenth day of October, 1907, the United States grand jurors, inquiring for the eastern division of the northern district of Illinois, found that Edward R. Hibbard, under the name and style of Boston Medical Institute, "had devised a scheme and artifice to defraud one Albert Hermann."

Similar charges were brought against Mr. Hibbard on account of his dealings with J. W. Sylvester and Lawrence Clary, Spencers Station, Ohio. Hibbard was admitted to bail in the sum of $2,000. The recognizance was filed Oct. 22, 1907. On the second of November Edward R. Hibbard filed a demurrer. The case came to trial on the twenty-fourth day of March, 1908. On the fourth of April the jury found Edward R. Hibbard guilty as charged in the indictment.

MEDICAL STAFF.

Some interesting facts about the "Boston Medical Institute" were brought out at the trial. In correspondence with the "patients" Hibbard represented that he had a medical staff of eleven members, "including some of the most eminent physicians of America and Europe." But the testimony of Dr. S. E. Embry, who was engaged by a Mr. Ward (advertising man for the Boston Medical Institute) to make an investigation and report of said institute, brought out the fact that when Dr. Embry visited the institute there were two doctors there—Dr. Edmondson and Dr. Koehn. Dr. Gilbert W. Edmondson testified that he was a graduate of the College of Medicine, Louisville, Ky., had attended the Indiana Medical College, Indianapolis, and that he was employed as medical superintendent by the Boston Medical Institute. In the course of the trial it was brought out that Dr. Edmondson "is shown by the investigations of the inspectors to be a man of mediocre ability, who is not recognized as a specialist and is without standing in his profession." Concerning Dr. Koehn the following statement was made: "The only other physician connected with the institute in any way whatever is a Dr. Koehn, who feels so with reference to the business that he will not permit his name to be in any wise publicly used in connection with it, and who gives not to exceed half of each day to analyzing such specimens of urine as may be submitted by patients. The value of his services in this regard can be appreciated from the fact that he admits 'analyzing' twenty and more specimens in the half day devoted to the institute."

CORRESPONDENCE.

Government exhibit 38 is a picture of the "correspondence department" of the Boston Medical Institute, "nearly 3,000 square feet," and one of the clerks testified that he had seen twenty men at work. The report of the postmaster shows that the mail received by the institute averaged 250 letters a day, and yet the testimony of the clerks and stenographers proves that the instructions for the answers to these letters, and therefore the treatment of all the patients, were received from Dr. Edmondson. The bookkeeper and cashier, Oscar A. Kempe, testified that the receipts of the institute were from $4,000 to $5,500 a month. The average fee from each patient was $7 a month. It is therefore probable that an average of nearly 700 patients a month were treated, and all by Dr. Edmondson.

LABORATORY.

One of the most taking catches of the advertisements of the institute, aside from the fictitiously large consulting staff, was that in regard to the laboratory. This was represented as "the most complete and extensive in the country, containing all of the latest discoveries known to science." The indictment sets forth that the laboratory was not the most complete in the country, and that it did not contain all the latest discoveries known to science.

Also the Boston Medical Institute advertised: "Our medicines are prepared to meet the symptoms in each individual case, in our extensive laboratory, by skilful and experienced chemists, thereby avoiding the mistakes so often made in compounding by incompetent druggists or their overworked clerks. The greatest care is exercised in the purchase of pure and unadulterated drugs and chemicals."

HOW THE MEDICINES WERE PREPARED.

Charles A. Jessamine, called on behalf of the government, testified that he was a shipping clerk. He had been a sailor. Jessamine entered the employ of the Boston Medical Institute as a shipping clerk. But when Jessamine described the compounding of drugs in the laboratory the following testimony was elicited:

Q. Who selected the medicines and put them in the tub?

A. I did this.

Q. Under whose instructions would you do this?

A. Under the doctor's instructions.

Q. Would you do this when he was not there at any time?

A He was in the room when he told me, but he would step out and I would do it.

Q. What would you have to guide you in making the proper mixture?

A. The drugs were mixed when we got them.

Q. Now, in making the compound, that is saturating it with alcohol and water, what directions would you have?

A. That was specified at all times, a certain amount for each particular drug.

Q. What shape were those directions in?

A. They specified to me to use 33 per cent. alcohol for a certain drug, and it was an understood fact that was what I had to use.

Q. Would you go to the bottles and pour out the alcohol, 33 per cent?

A. Yes, sir

Q. Would you do that when the doctor was not around?

A. Sometimes he would be in the room, and sometimes he would be just stepping out.

Q. What kind of medicines were those that were used for the tub?

A. Saw palmetto compound, black willow bark, and trifolium compound

Q Did you ever take any drug and put it into the tub and mix it up when the doctor was not there?

A. Yes, sir, I have.

Q. What guide would you have to go by in doing that?

A. All three kinds was marked by different numbers.

Q. How would you know whether you got the right drug or not?

A. It was very hard for me to get the wrong kind.

Q. What enabled you to determine whether it was the right kind?

A. They were marked inside and I could pull the box out and see which mark was on the one wanted, "X," "D," or "M."

Q. You depended entirely on the marks, did you?

A I could depend on the results and smell

Q Have you ever studied pharmacy?

A No, sir

Q. Have you ever had any experience in a pharmacist's place?

A No, sir

Q Did you ever take any special instruction under Dr. Edmondson in pharmacy?

A No, sir.

Q Were you during the time you worked for the Boston Medical Institute ever a registered pharmacist?

A No, sir.

Q During the time that you were working there, nearly four years, was there ever a registered pharmacist in that laboratory?

A. Not to my knowledge.

Q. And you say that you were the chief chemist there?
A. I didn't say that at all. I didn't say there was any chemist at all. The doctor—there was no chemist there.
Q. It says here: "Our prescription department, chief chemist and two assistants." Now who is the chief chemist?
A. It must have been the doctor.
Q. Who were the assistants?
A. I was assisting him. I was not the chief chemist.
Q. Who was the other assistant?
A. The boy Swanson. He was not a chemist. There was no one there to my knowledge that was a chemist. I could not swear whether the doctor was a chemist or not.

VALUABLE INVESTIGATION.

Judging from the developments at the trial, it was apparently the custom of the managers of the Boston Medical Institute to employ any one available to do whatever was to be done, regardless of the fitness of the person employed. For instance, when it was deemed advisable to have the institute and its "consulting staff" "examined," the advertising man for the institute secured the services of a Dr. S. E. Embry. The institute treated specially the diseases of men. Dr. Embry testified of himself as follows:

"The nature of my practice has been general practice and surgery. Since I have been in Chicago my practice has been principally corporation surgery." Nevertheless Dr. Embry went through the Boston Medical Institute and "examined" Dr. Edmondson as to his fitness for his position with the institute. The cross-examination of Dr. Embry brought out the following information as to his qualifications for the services he rendered to the institute:

Q. You do not seem to be well posted and fresh on the anatomy of the genital organs, do you?
A. Not particularly, no, sir.
Q. You do not claim to be an expert on that subject, do you?
A. I have never claimed to be an expert.
Q. You spoke of reading authorities on the subject of masturbation and night emissions. What authorities have you read on that ubject, doctor?
A. Charles Dana of New York. He was a specialist in nervous d mental diseases, and a neurologist in some of the hospitals ere, and a visiting neurologist at the Bellevue and some other hospitals there.
Q. Have you read any of his works on that subject?
A. I read one.
Q. Where did you read that, doctor?
A. Oh, I have read that book for some time. I don't just remember that.
Q. Where did you read it, if at all?
A. Well I think I looked up that book or was reading it. It seems to me like some time after I made the investigation of this concern. I just happened to think to look up masturbation.
Q. To look it up to be ready for this case?
A. Not about this case for I have not seen it lately. I remember going into a case somewhere, in Michigan I think it was, and I read up the case a little bit, only a page or two though, and that is all.
Q. What is the title of that book?
A. It is General and Nervous Diseases—that is, it is a book on nervous diseases, nervous and mental diseases. "Nervous and Mental Diseases" is the title as well as I remember it.
Q. Does that make a specialty of genital diseases?
A. That book makes a specialty of nervous diseases in its various forms.
Q. And is it not wholly a specialty on the subject of sexual neurasthenia?
A. I don't think there are over two pages in it that deal on that.
Q. Then all your authorities on this one subject, the subject of these genitourinary diseases is the two pages in Dana's work? Now, doctor, I mean to come right down to the authorities that you have referred to here a half dozen times - you say, the authorities say so and so.
A. I can not name any others.

PECULIAR ANATOMY AND PHYSIOLOGY.

Dr. Embry's answers to questions dealing with the anatomy of the genitourinary organs were peculiar—for instance:

Q. Remember this, doctor, in these questions that I am asking you now, that I am asking you about a perfectly healthy, normal boy, and if the semen is manufactured as you say in the testicle, then you say it goes directly from that to the urethra?
A. It goes into the urethra. That is it must have a channel, that is the way it is supposed to go.
Q. Is there any other channel?
A. No, sir, not unless it is absorbed.
Q. Is it ever absorbed, doctor?
A. Well, if it gets into the stools it has to be.
Q. How does it get into the stool?
A. It has got to be through absorption by the rectum.
Q. That sometimes occurs does it, doctor?
A. Yes, sir, when it is found in the stool it is. There is no other channel for it to go through.
Q. But it is sometimes absorbed into the rectum?
A. Yes, sir, where there is considerable or constant waste of it.
Q. You have known of such cases, have you doctor?
A. I couldn't say that I have examined such cases.
Q. Did you ever read of such cases?
A. Yes, sir, that is: I have read of it being found in the— that it could be found or is found in the stool.
Q. And did you ever read in any medical authority or work that where it is found in the stool it goes from the testicle into the rectum?
A. No, sir, I didn't read that, but then I know anatomy, that there is no other channel, no way for it to get through except it is absorbed.
Q. So your reasoning is that where the semen is found in the stool it is absorbed into the rectum?
A. Yes, sir. That is the only way that I could see how it got there.
Q. Do you know of any place where semen is stored in the human anatomy?
A. None, except in the testicles.
Q. There is no vesicle or bladder anywhere in which it is stored except in the testicles?
A. That is all I remember of. I am not as fresh in my anatomy as I was six or eight years ago when I was in school.
Q. And you have never made a dissection of that part of the anatomy?
A. No.
Q. Does the testicle act like a rubber bulb in dilating and contracting to expel the semen?
A. I don't know that I ever saw one acting: I couldn't tell you.
Q. Did you ever hear of such a thing as a prostate gland?
A. Well, I have certainly heard of them.
Q. Where are they?
A. The glands that surrounds the root of the penis.
Q. What are they for?
A. They are part—they are the glands that surround the neck of the bladder and the root of the penis.
Q. What is their function?
A. Well, to produce—just like any other glands; it produces secretions.
Q. What is the secretion that they produce?
A. I don't know that I could define it to you exactly.
Q. Where did you yet your information, doctor, on this general subject of semen and how it is produced and what is done with it and what becomes of it and all about the subject that you have been testifying about?
A. From books on general anatomy and physiology and other books.
Q. What books?
A. I don't remember the books, sir, all of them that I have read.

THE VELVET GLOVE.

The institute seemed to have had a regular set method of dealing with the unwary flies which fell into its trap. One of the complainants in the case against E. R. Hibbard, as representing the institute, was a J. W. Sylvester, Racine, Wis. In his complaint it is shown that when he was about 19 or 20 years old he was influenced by the advertising literature of the Boston Medical Institute to seek treatment from it, through the mails for occasional night emissions. Such a condition in a healthy young man of the age of Mr. Sylvester at that time is entirely normal. This concern, however, represented to Mr. Sylvester that he was in a serious state, suffering from sexual debility and in need of immediate and the most skilled attention. Quoting the language of the concern to Mr. Sylvester, he was advised that his case had been carefully considered by the institute staff of specialists, who had decided that he was suffering from "spermatorrhea, passive congestion of the kidneys, partial impotency and nervous debility," and he was informed that unless he speedily obtained "energetic and well-directed treatment, the inevitable result will be not only a breakdown of the general nervous system, but a complete extinction of the sexual powers themselves." He was further told: "We are pleased, however, to state that, if you at once begin an efficient medical treatment, we do hereby absolutely guarantee your ultimate restoration to perfect health or refund every dollar paid to us in fee, and it is our belief that the same can be brought about in from two and one-half to four months."

Services and medicines were offered for $10 for the first month and $8 for each of the succeeding months.

Mr. Sylvester testifies that he treated with this institute for twenty-three months, and at the end of the time his health was completely wrecked, and he was compelled to go to his physician for attention. Mr. Sylvester testified that altogether he paid the institute more than $150. He finally became convinced that the institute was not curing him and was only injuring his health and securing more money from him without giving him any real benefit. He therefore demanded the return of his money in accordance with the promise and guaranty made to him that, if he was not cured, his money would be refunded. The letter of the company written him in reply to this demand, refuses him his money under the pretext that he had not been guaranteed a cure in any definite time: and despite the fact that the institute had been handling his case for nearly two years, it had the audacity to suggest that it could ultimately cure him if he would indefinitely continue treatment.

THE HAND OF IRON.

When Sylvester attempted to press his claim for the return of his money he was advised that his "scurrilous, defaming and blackmailing letter" would be placed in "the hands of our attorneys to prosecute you to the full extent of the law."

Dr. Robert A. Kitto, Racine, Wis., whom Sylvester consulted after discontinuing treatment from the institute, testified that when Sylvester came to him he was "very nervous and debilitated. He was in what we call a hypochondriac condition. That is, he was largely imaginary, worrying, and very weak, emaciated and pale. My treatment of him was tonic and advice. I advised him not to worry about his condition, that it was not as bad as he supposed it was, and it was a good deal of imagination, and that was working on his mind, and his mind was working on his body, and that made him feel as he did, when in reality he was not diseased, as he imagined he was. I gave him very simple tonics, what we call tissue medicine, or building medicine. I treated him about three or four months, I think, constantly. When I got through I considered him all right. He had been cured at that time.

EFFECT OF SUCH LITERATURE ON THE IGNORANT YOUNG.

The case of Mr. Sylvester seems to illustrate a point made by Dr. Harold N. Moyer, of Chicago. Dr. Moyer was asked the following question:

> Q. I will ask you to state in your opinion, doctor, what the effects the sending of such a pamphlet as "Government Exhibit 16," entitled "Perfect Manhood," to an inexperienced and ignorant boy or to a boy who had not seen a great deal of the world, who had not had much experience, who had had nightly emissions occasionally and had practiced self-abuse somewhat, what effect, in your opinion, would the putting of such a book as that in the hands of such a boy have; or the sending of it to him or the distributing of it to him—I don't mean the giving of it to him by his father—but picking it up on the street, or finding it at a picnic, or having it put in his wagon, a farmer's boy, while he was in town, and picking it up secretly—secretly reading it?
>
> A. I think the effect would be to cause a nervous condition in that person and I think he would have nervous troubles developing from it, because it would create a disease in him or a mental disease in him that did not exist. He would think he had something the matter with him which he did not have. That is what I think would be the effect of such teaching as this book contains.
>
> Q. I will ask you what, in your opinion, would be the effect on such a young man or boy after reading that book to get into correspondence with the Boston Medical Institute, which was distributing it, and after having corresponded at a distance with the institute for several months, and taking those medicines and writing his symptoms on blanks that were sent to him for that purpose, and keeping that up for several months and paying the money monthly, what would you say would be the effect on a boy of that kind, of that kind of treatment?
>
> A. I would say that would tend to keep up the nervous condition, and that it would impair such a person's health.

THE HERMANN CASE.

Albert Hermann, another of the complainants, had an experience similar to that of Mr. Sylvester. When Albert Hermann was "going on 17 years" he lived in Ann Arbor and was an organ maker who was doing a full day's work every day. He testified that "the condition of my health prior to January, 1905, seemed all right except that I had bad habits." It was brought out in the cross-examination that Mr. Hermann had practiced self-abuse for a year and a half. At the time Mr. Hermann began the practice he did not know anything of its effects. When he found out that it was a "bad" habit he "gradually slowed down," and at the end of six months discontinued it.

One day, near the Ann Arbor depot he picked up a Boston Medical Institute pamphlet—"Our Army and Navy." Mr. Hermann testified: "I read every word of this pamphlet through. I commenced to think about it, and I thought I was very sick, and I cut out the question blank and sent it to the Boston Medical Institute." Mr. Hermann had nightly emissions "about once in every two weeks." At this time the practice of self-abuse had been discontinued. The Boston Medical Institute pretended that he was in a most serious state, was suffering from sexual debility, and required immediate and skilled attention. He took the treatment for about seven months in 1905 and for about three months in 1906. He alleges that as a result his digestion was ruined, and that because of the treatment he was compelled to obtain the attention of a local physician.

INDUCED TO PROLONG TREATMENT.

The letters which he received from the institute while under treatment were all of a character to induce him to prolong the treatment. The treatment commenced Jan. 25, 1905. In March he was advised: "Greatly pleased with progress—we are greatly interested in your case." In April: "Trusting that you will continue to manifest a hearty good will in cooperating with us—especially interested in case—our entire board of physicians following your progress." In June: "Sorry you feel discouraged, and we assure you that there is no reason whatever for you to do so—it would be nothing short of criminal to quit now." In July: "We are pleased with the continued improvement in your condition, and can assure you that you are improving nicely."

About this time Hermann became discouraged and dropped the treatment, but in December, 1905, was induced to take it up again by the representations of the institute that "we do absolutely guarantee that our treatment will check all unnatural losses and restore the organs to their natural size, strength and vigor, and as a result of such vigor you will certainly feel like a new man in three months." In January, 1906, he was informed that "we are greatly pleased with the progress made thus far." In March, 1906: "Although your improvement is quite slow, it is steady."

THE INSTITUTE SHOWS THE CLOVEN HOOF.

Hermann finally became convinced that instead of curing him the institute was seriously endangering his health, and ceased the treatment and applied for the return of his money, in accordance with the company's guarantee. He was advised that the company had never guaranteed to cure him in any certain time; also that he had not been promised that all of his money would be returned, but that only the institute fee would be refunded, if he was not cured, and that this fee was only "10 per cent. of all you paid us." The institute refused to return even this, pretending that it had not failed to cure him. He was further advised: "Let us tell you now that if you cause us any trouble about this matter, or try to do so, we will have good grounds against you for slander and defamation of character. We do not wish to get into any trouble with you about the matter, but if you persist in it and bring it on yourself, we are sure that we shall defend ourselves to the limit, and we will show that at the time you began the treatment you were practicing these secret masturbation habits. We will also have something to say along other lines when you are done with all you wish to do—we will show you that this very letter in our possession to-day on this subject is a ground for blackmail on your part against us."

This threat publicly to expose the weaknesses and infirmities of patients, given in professional confidence, is in strange contrast with the assurance printed at the top of each letter: "All correspondence strictly confidential."

ATTEMPTS TO SECURE RETURN OF CORRESPONDENCE.

The correspondence between the institute and patients, submitted with the complaints to the Postoffice Department, shows the significant fact that the institute had endeavored to obtain the return to it of all its correspondence to patients by printing on the reverse side of its letters forms for the patients to fill in and return to the institute, reporting the progress of their cases. This practice of the company would seem to indicate that they recognized that the matter desired to be returned was of an incriminating nature. This is plainly shown by the cases discovered by the inspector, in which money was paid by the institute for the return of its correspondence, which it had failed to obtain by the first-mentioned method.

In the case of Augustus H. Wright, Harrisburg, Pa., the Boston Medical Institute wrote him July 3, 1906, in part as follows: "We wish to settle that trouble and have no more to do with you. Will pay you the $40 you ask if you will comply with the following conditions, and send us an express C. O. D. for the $40. In the package we wish you to place *all* the letters, pamphlets, clips, etc., that were ever sent you, including the *two* sheets of the letter of diagnosis and terms first sent you; also sign the enclosed statement with your full name, and date it, and give us the privilege of examination before paying the C. O. D., and we will pay it if all these things are in it."

STOCK DIAGNOSES.

For the purpose of testing the skill and honesty of the business as regards the diagnosing and treatment of cases, the inspectors caused three test letters to be sent to the Boston Medical Institute, and the results are given as follows:

1. T. M. Moran, Canton, Ill. In this case the *inspectors*, after opening correspondence with the institute as *from a regular* patient, submitted symptoms of a plain, *uncomplicated* and patent case of hydrocele. This is a condition *recognized* by all reputable practitioners of medicine as amenable only to surgical treatment. The institute, recognizing it could give no service of value through the mails for the hydrocele, falsely pretended that the condition was "sexual neurasthenia," a term that covers a great many ailments and diseases; as, for instance, "nervous debility or general weakness of the nervous system, peculiar pains and aches in different parts of the body, tired and exhausted feeling, and so forth." None of these symptoms were given by the patient; but the patient was assured that the institute could cure the condition diagnosed in from two and one-half to four months, and urged the party to take treatment at $12 for the first month and $8 for each succeeding month.

2. John B. Gardner, Brookfield, Mo. In this test the inspectors submitted symptoms showing a plain, uncomplicated and patent case of varicocele, which is also a condition recognized by all reputable physicians as *amenable* only to *surgical treatment, if any be required. In this instance the institute wrote: "The physicians connected with our institute have to-day given your case their attention, and, after carefully considering the description of your condition, find* you to be suffering from sexual neurasthenia, falsely called spermatorrhea," *and urged the patient to take treatment from* the institute *for* $12 *for the first month* and $8 *for each* month thereafter, under the promise: "We do hereby absolutely guarantee your ultimate cure for the trouble diagnosed or refund to you every dollar you have paid us in fee, and it is our belief that your cure can be accomplished in from two and one-half to four months." This diagnosis is on a printed form, which shows its general use, and also contains the following statements calculated to create a condition of fear in the mind of the patient: "We also desire to add that we *do not regard your trouble* as especially dangerous to your life at present, or desire to frighten you in any manner or exaggerate your complaints, but at the same time we do regard them as dangerous to your sexual health and happiness, if you allow them to go unchecked, for these troubles are progressive and demand immediate treatment, which we are prepared to give."

3. E. J. Robb, Aurora, Ill. A test *similar to the Gardner* test was conducted under *the name of E. J. Robb, the* inspectors submitting a plain *and uncomplicated* case of varicocele, and receiving the same stock *diagnosis in answer* thereto.

FRAUDULENT PRETENSES OF INSTITUTE.

These tests show affirmatively that it was the practice and intent of this institute to endeavor to obtain money from the unfortunate by falsely and fraudulently pretending that it could treat them through the mails successfully and thereby inducing them to purchase treatment, although it knew it could give no treatment of value by mail for the conditions from which they were suffering. The recognition that the institute could give no services of value in the test cases conducted by the inspectors is not only patent from the cases themselves, but was conceded by Mr. Hibbard, the manager and proprietor of the business, in his written answers to questions propounded to him by the inspectors with reference to these cases.

The facts disclosed by the Sylvester, Hermann, Wright and other complaints show that the promises given by this institute to secure patients: that in case of failure to effect a cure all money paid will be refunded, are not made in good faith or honestly, but are held out fraudulently and without any intention on the part of those conducting the business to fulfill them; but rather that the intention was to refuse to return the money, to make such requests matters of controversy, to claim that such requests were blackmail, to threaten public exposure of patients, to claim that no time was absolutely specified and that therefore there could be no claim for a refund, to claim that the promise was not that all the money would be refunded, but only the fee.

Concerning this last point, it is interesting to note that to the inspectors' question as to what he meant by the statement *in his letters*, "We absolutely guarantee to cure or refund every dollar paid to us in fee," Mr. Hibbard answered "We meant all money paid—every cent."

The inspectors asked Mr. Hibbard to cite instances in which the money of uncured patients had been refunded. Mr. Hibbard declined to do so, and gave as his reason that the names of patients were held *confidential*. *The government exhibit* of letters threatening *patients* with *public exposure is in* startling contrast to this statement.

An interesting feature of the trial was the fact, which was made evident, that there are physicians, who desire to be known as good and regular practitioners, who for solicitation and hire, will defend such an institution as the Boston Medical Institute was proved to be, and, furthermore, one of these men testified that he believed the effects of distribution of such literature as that sent out by the institute was good. There were submitted affidavits from four physicians who claimed that they had conducted an investigation of the affairs of the institute and expressed it as their opinion that it was an honest and not a fraudulent business. But even *they had the grace to condemn the* "unprofessional" methods of the company in soliciting business.

TESTIMONY OF PHYSICIANS FOR THE DEFENSE.

One of these witnesses was George J. Tobias, *who testified* that he was a graduate of the College of Physicians and Surgeons of Chicago, class of 1885; that his first year of practice consisted of dispensary work and some work at the Dunning Insane Asylum; he was then in general practice until 1889, and from 1889 to 1904 was physician to the claim department of the North and West Chicago Street Railway companies; he handled during that time about 2,000 cases of street-car injuries; and after that time did largely an office practice; in 1895 he was *graduated* at the Kemp College of Law, and was *appointed to the chair* of medical jurisprudence and taught *five years*; subsequently lectured *two terms at the College of* Physicians and Surgeons on the same subject; and later taught for two years in the Chicago College of Medicine and Surgery, in the chair of practice; he had made a study of the genital organs in a general way as a general practitioner does; and had dealt to a certain extent with masturbation and seminal losses; he believes the effect of masturbation on the physical condition of a young man to be harmful; the habit filthy; that it causes shock to the nervous system; a loss of fluid; unnatural excitation, stimulates impure thoughts, and may become a fixed habit; the habit is bad, although it is more or less universal; it lowers the vitality, tells on the mental and nervous *system*, and the general *vitality* suffers.

In reply to the questions as to the examination he made of Dr. Edmondson, Dr. *Tobias testified* that he went into the inner *office* and asked Dr. Edmondson in a general way as to his *credentials*, and on receiving the answer that he was *a graduate*, asked if he was familiar with general practice, and stated in brief that the examination of Dr. Edmondson was full and complete. Objection was made, and sustained by the court, to the question whether, in Dr. Tobias' opinion, Dr. Edmondson was competent to diagnose correctly a case of a man suffering from the effects of masturbation and seminal losses.

THE DRUGS EMPLOYED.

Dr. Tobias further testified that he saw the room in which the drugs were contained; that he found a list of remedies from 2 to 97, and a number that were not numbered. *Among* the formula was a sedative mixture containing assafetida extract kola nut. zinc phosphid, extract nux vomica, extract hyoscyamus; formula 3 was an alterative containing iodid of potassium. syrup of iodid of iron, chlorid of mercury, arsenic tincture and nux vomica; formula 4 was diuretic, containing extract of buchu, corn silk, hydrangea and bicarbonate of potassium: formula 6 contained Blaud's mass, cascara sagrada, gentian. nux vomica and capsicum, and is a good nerve tonic and excellent in cases of alcoholism; formula 13 was composed of methylene blue, which is used in gonorrhea to render the urine alkaline; formula 14 contains copaiba, cubebs, sulphate of iron, oil of sandalwood and Venice turpentine. This formula is a favorite among genitourinary specialists in the treatment of specific urethritis. He found a large number of formulas on record, enough to take care of any line of diseases met with in chronic work. He did not make the analysis of pills or tablets, but had reason to believe that they contained what the formula stated; he took the lids off the large tin boxes, and the glass stoppers out of glass receptacles to see whether the fluids were fresh, and found that they were in good condition. The dispensary of the institute, he testified, was far superior in equipment to that of the dispensary of the College of Physicians and Surgeons; he saw no card displayed in the laboratory or dispensary, showing that a registered pharmacist was in charge, and considered the absence was due to the fact that their institute was dispensing remedies already prepared by special formulas and put up by houses like Parke, Davis & Co., with formulas on the containers.

Albert A. Lowenthal testified as follows:

I am 34 years of age; profession, physician; have been for 13 years. I have made a specialty of insanity and nervous diseases for twelve years. I am medical superintendent of the Riverview Hospital at Kankakee. The patients there are nervous patients. No insane patients at that institution. I am professor of nervous diseases at the College of Physicians and Surgeons and at the Jenner Medical and I had the chair on nervous and medical diseases at the Dearborn Medical. I was formerly physician at the asylum at Kankakee. I was on the active and advisory staff of the Cook County Hospital. I was clinical instructor first for the College of Physicians and Surgeons for three years and now I am adjunct professor of nervous and mental diseases. I am connected with societies; I am a member of the county medical, the state and national, and of the Physicians Association of the Insane Asylum.

Q. What is your opinion of the effect of masturbation on the physical condition of a young man who is practicing masturbation.

A. If he is a persistent masturbator it certainly has a bad effect.

Q. What possible bad results can result from masturbation?

A. Everybody is given a certain amount of nerve force; if he abuses that nerve force either by excitement, grief, masturbation or otherwise he will run out of nerve capital and there will be a nerve deterioration, and usually the nervous system breaks down first on account of the finer texture.

Q. Then what might happen deleterious?

A. I have a large number of cases that I have kept statistics on showing dementia. I have found out that at least 40 per cent. of the masturbators, or 40 per cent. of these cases that have been persistent masturbators, have become insane. Afterward in the institution we used to use methods to stop the masturbation and the patient would clear up and could be sent home; therefore we came to the conclusion that masturbation was the cause of this condition in the cases that cleared up. Then we would try, if we had a history of the other cases, to obviate the underlying causes if we could.

Q. Suppose that a good, healthy, young, vigorous boy, strong physically, 16 or 17 years of age, who was not concerned about his private organs at all, who had no sexual excitement at all, who lived in the open, out of door life, good wholesome thoughts, would it be normal for him to have night emissions?

A. It would not be abnormal if he had night emissions if he did not masturbate. If the ducts become filled they are liable to open up at any time.

Q. Is it your opinion that in a strong, healthy young man, from 16 to 22, unmarried, night emissions once a week, or once in ten days, is normal?

A. That question is put to me right along, and I will answer once in four weeks.

Q. Then you will not say, as I take it, that once in two weeks was pathologic?

A. No, sir.

Q. Suppose a young man had those night emissions and had not talked with his parents about it or had not talked with any doctor about it, if he should be made to believe that it was an alarming state of affairs, wouldn't that be injurious to him?

A. It might or might not.

Q. Well, you have made a specialty of nervous troubles, have you not?

A. Yes, sir.

Q. And isn't it a fact that one of the worst things that you can do for a person is to make them believe that they are very sick?

A. No, sir, it is a good thing in neurasthenia.

Q. Is that one of your treatments, to make your patients believe they are very sick?

A. In neurasthenia it is the ideal treatment.

Q. Is that the way you treat neurasthenia?

A. Yes, sir, and I am very successful.

Q. You think you have treated as many nerve patients as any nerve specialist in Chicago, do you?

A. I think my record will show it.

Q. Are there physicians who treat nervous diseases in Chicago here who have been practicing for twenty-five or thirty years?

A. Yes, sir, but it is like a building association, they mature in about ten years.

Q. You think that those old, experienced doctors, who are making a specialty of neurasthenia and nervous diseases, are too mature, too, do you?

A. I said that they get beyond usefulness in regard to nervous conditions and do general work.

Q. Do you think that an old, experienced specialist in Chicago here who has been practicing for twenty-five or thirty years, along that line, has become too old, has had too much experience to be real good along that line?

A. Well, if you know them you know they are, because most of them are nervous wrecks, insane now.

Q. Name some of them who are nervous wrecks and insane now.

A. Dr. Lyman.[1]

Q. Who else?

A. Dr. Clevinger.

Q. Any more?

A. Dr. Brower.

Q. Dr. Brower?

A. He has had nervous shock.

Q. Do you think he is insane?

A. I do not say they are all insane, I say they are nervous cases.

Q. How do you expect to be yourself, after you have practiced, after you have made a specialty and practiced it for ten years?

A. Probably I will be in the same shape. I hope not to, but that is usually the way they finish up.

Q. Do you know Dr. Church, who has made a specialty of nervous diseases here in Chicago?

A. Yes, sir, he is a good man.

Q. Do you know Dr. Harold N. Moyer?

A. He does not do any general practice. He just testifies in court.

Q. Don't you think he is an able specialist along the lines of nervous diseases?

A. I don't think so. He was.

Q. You don't think that Dr. Moyer is losing his mind at all, do you?

A. I am in no position to state, I have not given him an examination lately.

Q. Now I will ask you about Dr. King. Do you know him?

A. Yes, sir.

Q. Who is he? Has he lost his mind at all from the effects of treating neurasthenia?

A. I will not make a statement on the witness stand. I have my opinion, though.

Q. What is that opinion, doctor?

A. I refuse to answer for fear that I will incriminate myself. I have done some work with him.

Q. What percentage of young men between 16 and 23 practice masturbation more or less, in your opinion?

A. About 99.9 per cent.

Q. Do you consider that it would be injurious for a young man to masturbate once in two weeks?

A. If he was a strong man I would not think so, if he did it two or three times.

Q. Do you think that the placing of this book, "Perfect Manhood," in the hands of the laity would be a good thing or a bad thing?

A. If it was to be delivered to men, I think it would be harmless. I think it would enlighten a good many of them.

Q. Wouldn't you say this, as an expert along the lines of nervous diseases, that in many instances, to put it into the hands of an ignorant boy, a boy that was not informed on this subject, that it might do injury in the way of making him worry and become nervous and injure his nervous system?

A. It might have some effect on his nervous system, but I think it would be a good thing from his standpoint—that it would bring him to a physician, if he saw that he had those things, and if he practiced any of those things, it would be a benefit to him.

At the end of the trial it was found that the business conducted under the names Boston Medical Institute, F. L. Hibbard, E. R. Hibbard, Bellevue Medical Institute, B. Norton and B. Newton, was a scheme for obtaining money through the mails by means of false and fraudulent pretenses; and a verdict against Edward R. Hibbard was given as cited in the beginning of this article.

Therapeutics

HYPNOTICS. II.

CHLORAL.

The action desired and expected from chloral is to produce sleep and to quiet excitability and irritability of the nervous system.

Chloral hydrate is more or less irritant to the skin and mucous membranes, depending on its concentration. If it is diluted or in syrupy solutions, which it forms when rubbed up with camphor in equal parts, while the first sensation may be that of burning, especially when the skin is irritable, the secondary action is a sedative, the peripheral nerves being slightly dulled, and the part becomes mildly anesthetized. Chloral solutions or chloral combinations are therefore sometimes used locally with good effect when there is burning or itching of different parts of the body, such as in pruritus ani or pruritus vulvæ. The same burning action occurs when it is applied to mucous membranes, and is followed by a dulling of sensation. If the solution is too concentrated it may cause ulceration: therefore chloral should never be administered in powder or capsule, but should always be given in solution, well diluted.

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[1] In connection with Dr. Lowenthal's evidence, it is interesting to note that Dr. Lyman died in November, 1904.

Its primary systemic action is as a sedative to the brain and spinal cord. It seems to act specifically as a sedative to the brain cells and produces normal sleep. Whether this sleep occurs by actually stupefying the brain cells or by diminishing the circulation in the brain has not been determined. It is the nearest to a perfect hypnotic that we have, and may be used whenever a soporific drug is needed, provided there is no serious cardiac or circulatory debility. After an ordinary sized dose the patient awakens in normal condition, and without depression, unless the hypnotic has been frequently repeated. Larger doses will quiet the delirium of meningitis and will stop cerebral and spinal convulsions. When the convulsions are due to a spinal poison, as strychnin, or tetanus or hydrophobia, the dose of chloral must be very large, almost poisonous. Consequently, when such an action of chloral is desired, it should be conjointly given with large doses of bromid, and if the convulsions are frequent and severe chloroform must be resorted to rather than the administration dangerous doses of chloral.

Chloral is a circulatory sedative, causing some vasodilatation, slowing, and in large doses weakening the heart. In diseased conditions of the heart it has been thought to have hastened death by causing cardiac failure. Except in small doses, it should not be given when the pulse tension is low and the heart action very weak. However, its quieting effect on the circulation and its causing, perhaps, much needed sleep has done a great deal more good than it has ever done harm. Small doses, as 0.20 gram (3 grains) three times a day, have been given to reduce high tension in arteriosclerosis. It will sometimes do this effectually in this small dose, but perhaps generally the nitrites or iodids act better.

It circulates in the blood as chloral, and is excreted largely by the kidneys, ordinarily without causing irritation. It acts rapidly as a hypnotic, and should cause sleep in less than an hour. In concentrated solutions or when it finds the stomach in such a condition that it may be rapidly absorbed, or in poisonous dose ("knockout drops"), it can produce sleep very rapidly.

In view of the fact that a few individuals show a peculiar idiosyncrasy for chloral—delirium, etc.—it is advisable to be cautious in giving it to a patient for the first time.

The symptoms of its profound action are more or less profound stupor, dilated pupils, cold, clammy perspiration, weak heart action, feeble pulse, and gradually failing respiration.

The treatment of chloral poisoning or poisoning by "knockout drops" is to wash out the stomach with warm water or to remove its contents by emetics. The body temperature should be kept up with dry heat applications, and strychnin should be given hypodermatically. If a full dose of strychnin, as 1/20 of a grain, does not improve the circulation, atropin in a dose of 1/100 of a grain should be given hypodermatically. If the circulation still fails, resort should be had to intramuscular injections of a saturated solution of camphor in olive oil, 1 c.c. (15 minims), which may be repeated every fifteen minutes for several times, if needed, or an adrenalin or suprarenalin solution (1 to 1,000) given once, in a dose of 1 c.c. (15 minims). If the respiration fails, artificial respiration should be resorted to.

If at any time after the administration of a therapeutic dose of chloral cardiac depression occurs, strychnin and digitalis should be given.

Chloral is a very disagreeable drug to take. It can not be given hypodermatically on account of the size of the dose and the irritation that it causes. It is rarely advisable to give it by the rectum unless convulsions prevent its administration by the mouth. It has a nauseating, acrid, burning taste which is not readily disguised. It should always be given well diluted.

Chloralum Hydratum, U. S. P., occurs in crystals which are very soluble in water and alcohol. It is incompatible with alkalies. The ordinary dose is 1 gram (15 grains), and when given by the rectum 1.50 grams (22½ grains).

As above stated, it is almost impossible to disguise the taste of chloral, but it is perhaps best administered in sour solutions, or it may be ordered in plain water and given in fresh lemonade.

℞.	gm. or c.c.		
Chlorali hydrati	10	or	ʒiii
Aquæ	50		fl℥ii

M. et Sig.: A teaspoonful in half a glass of fresh lemonade, or in carbonated water, one half hour before bedtime.

Or:

℞.	gm. or c.c.		
Chlorali hydrati	10		ʒiii
Syrupi acidi citrici	25	or	
Aquæ	ad 50		āā. fl℥i

M. et Sig.: A teaspoonful, in plenty of water, at bedtime.

Or:

℞.	gm. or c.c.		
Chlorali hydrati	20		ʒvss
Syrupi aurantii	50	or	
Aquæ	ad 100		āā. fl℥iss

M. et Sig.: A teaspoonful, with plenty of water, as directed

Chloral is often combined with one or more bromids. Generally, however, it is best to have these nerve sedatives in separate solutions so that one may be increased or diminished without variation in the dose of the other, if it is so desired. For instance, in delirium tremens it may be best to continue the bromid and to stop the chloral, or to increase the amount of bromid without increasing the amount of chloral. However, if it is desired to combine them they may be given as follows:

℞.	gm. or c.c.		
Chlorali hydrati	5		ʒiss
Potassii bromidi	10	or	ʒiii
Syrupi acidi citrici	50		
Aquæ	ad 100		āā. fl℥ii

M. et Sig.: Two teaspoonfuls, in water, and repeated in two hours if deemed advisable.

Shoemaker suggests the following combination:

℞.	gm. or c.c.		
Chlorali hydrati	10		ʒiii
Potassii bromidi	15	or	ʒivss
Syrupi lactucarii	50		
Syrupi aurantii	ad 100		āā. fl℥ii

M. et Sig.: Two teaspoonfuls in plenty of water, at bedtime.

The National Formulary recognizes mistura chlorali et potassii bromidi composita. Four cubic centimeters (1 fluidram) of this preparation contain 0.80 grams (12 grains) each of chloral and potassium bromid, and

0.008 gram ($\frac{1}{8}$ grain) each of extract of cannabis indica and hyoscyamus. The dose is a teaspoonful.

When there is pain chloral may be combined with morphin to produce sleep, as:

℞.	gm. or c.c.		
Morphinæ sulphatis	08		gr. iss
Chlorali hydrati	5	or	ʒiss
Glycerini	10		flʒiii
Aquæ	ad 50		ad fl℥ii

M. et Sig.: A teaspoonful, in water, as directed.

The National Formulary also recognizes Chloral camphoratum, a combination of equal parts of chloral and camphor, which, as above stated, when rubbed together make a liquid. This preparation is for external use as a sedative for painful nerves and for itching when there is not much irritation of the skin.

Cocain may be added to this combination, as:

℞.	gm. or c.c.		
Cocainæ hydrochloridi	60		gr. x
Camphoræ	15	or	
Chlorali hydrati	15		āā. ℥ss

M. et Sig.: Use externally as directed.

The combination of chloral and camphor may also be used on flea and mosquito bites.

Chloral hydrate applications are sometimes used in urticaria, as:

℞.	gm. or c.c.		
Chlorali hydrati	5		
Acidi borici	5	or	āā. ʒi
Aquæ camphoræ	200		fl℥vi

M. et Sig.: Use externally.

Chloral hydrate may be incorporated into an ointment and may be thus used locally in neuralgias and myalgias, as:

℞.	gm. or c.c.		
Chlorali hydrati	5		
Camphoræ	5	or	āā. ʒiss
Petrolati albi	25		℥i

M. et Sig.: Use externally.

If chloral is added to a stimulating liniment it will increase its counterirritant action, as:

℞.	gm. or c.c.		
Chlorali hydrati	5	or	ʒiss
Linimenti chloroformi	100		fl℥iv

M. et Sig.: Use externally.

CHLORALAMID.

Chloralformamidum U. S. P. occurs as crystals which are a compound of chloral and formamid. It is soluble in water in 5 per cent. solution, and is very soluble in alcohol and glycerin. The dose is 1 gram (15 grains).

Chloralamid may be epigrammatically described as acting "just like chloral, only less so." This means that it is less soluble, less irritant, less rapidly absorbed, less powerful as a hypnotic, has less nerve sedative action on the brain and spinal cord, and is less of a circulatory depressant.

On account of its being less irritating in the stomach than chloral it may be administered in capsules, as:

℞.	gm.		
Chloralformamidi	10	or	ʒiiss

Fac capsulas siccas 20

Sig.: Two capsules, with a glass of water, two hours before bedtime.

Chloralamid is better, however, administered in solution, as:

℞.	gm. or c.c.		
Chloralformamidi	10		ʒiii
Glycerini	25	or	fl℥i
Spiritus frumenti	ad 100		ad fl℥iv

M. et Sig.: Two teaspoonfuls, in a half glass of water, one hour before bedtime.

New and Nonofficial Remedies

The following articles have been tentatively accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in the proposed annual, "New and Nonofficial Remedies." Their acceptance has been based largely on evidence supplied by the manufacturer or his agent, but to some extent on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before final acceptance and publication in book form.

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that so far as known it complies with the rules adopted by the Council.

W. A. PUCKNER, Secretary.

(A list of all accepted articles is published on an advertising page of The Journal *in the first issue of each month.)*

(Continued from Vol. LI, page 1235.)

BETA-EUCAINE LACTATE—Eucaini Lactas.—Beta-eucaine lactate is the lactate of benzoyl-vinyl-diaceton-alkamine, $C_{21}H_{15}NO_2.CH_3.CH(OH).COOH$.

It is prepared in a manner similar to the method for beta-eucaine hydrochloride, lactic acid being substituted for hydrochloric.

Beta-eucaine lactate forms a white crystalline powder soluble in water at the ordinary temperature to about 22 per cent., in alcohol to about 11 per cent., in chloroform about 20 per cent., in fatty oils with the aid of chloroform. It melts at about 152° C. (305.6° F.). The aqueous solution is feebly alkaline to litmus. In aqueous solutions the base can be thrown down by solutions of sodium or potassium hydroxide as an oily deposit which solidifies after a time. Ammonia produces a precipitate which redissolves, but is reprecipitated on the addition of more ammonia.

Tests. The precipitate caused by 4 drops of ammonia water (10 per cent.) in a solution of 0.1 Gm. of beta-eucaine lactate in 20 Cc. of water is redissolved on the addition of 20 Cc. of water.

If a few drops of diluted sulphuric acid and 1 Cc. of potassium bichromate solution (1:10) are added to 0.1 Gm. of eucaine lactate, heating develops an odor of acetaldehyde.

0.1 Gm. of eucaine lactate should dissolve without coloration in 1 Cc. of cold sulphuric acid (sp. gr. 1.84). 0.2 Gm. of eucaine lactate, on combustion, should leave no weighable residue.

Quantitative Determination: 0.5 Gm. eucaine lactate is dissolved in 100 Cc. of alcohol. This solution is titrated with N 1/10 NaOH V.S. using phenolphthalein as indicator. 1 Cc. N 1/10 NaOH V.S. = 0.0337 Gm. of eucaine lactate. Instead the alkaloid may be extracted with chloroform from the aqueous solution made alkaline with ammonia water, the chloroform allowed to evaporate spontaneously, the residue dried in a desiccator, and weighed. The alkaloid should weigh 73.31 per cent. of the weight of the salt.

Actions and Uses.—The same as those of beta-eucaine-hydrochloride, over which it possesses the advantage of greater solubility.

Dosage.—For hypodermic injections, 2 to 4 per cent. solutions (preferably in 0.6 to 1.0 per cent. sodium chloride solution with or without suprarenal alkaloid); in the eye, 1 to 2 per cent. solutions; for penciling or tamponading mucous membranes, 10 to 15 per cent. solutions; for infiltration, 1 to 500 solutions with sodium chloride 0.6 to 1 per cent and suprarenal alkloid: for painful wounds, 5 to 10 per cent. ointments with wool fat (adeps lanæ).

Manufactured by Chemisch Fabrik auf Actien, vorm. E. Schering, Berlin; (Schering & Glatz, New York). U. S. patent 657,880.

GLYCEROLE OF LECITHIN—Glyceritum Lecithini.—Glycerole of lecithin is a solution of lecithin in pure glycerin, containing in each 100 Cc., 1.6 Gm., of pure lecithin.

Actions and Uses.—See Lecithin.

Dosage.—4 Cc. (1 fluidram) containing 0.06 Gm. (1 grain) of lecithin.

Manufactured by Fairchild Bros. & Foster, New York. Not patented or trademarked.

LECITHIN SOLUTION.—A solution of lecithin containing 1.6 Gm. of lecithin in 100 Cc. of a glycerin-alcoholic menstruum containing 18.5 per cent. of alcohol by volume.

Actions and Uses.—See Lecithin.

Dosage.—4 Cc. (1 fluidram), containing 0.06 Gm. (1 grain) of lecithin.

Manufactured by Fairchild Bros. & Foster, New York. Not patented or trademarked.

(To be continued.)

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 17, 1908.

BARIUM, A CAUSE OF THE LOCO-WEED DISEASE.

Some time ago we called attention to a preliminary paper by Crawford[1] on barium as a cause of "loco" in animals. Crawford's complete work has recently appeared as a bulletin of the Bureau of Plant Industry, United States Department of Agriculture.[2] Although the subject of "loco" is largely of economic interest, since it causes very extensive losses of live stock in the entire western half of the United States, there is in this work much of interest to physicians.

Briefly stated, Crawford finds that certain plants, of themselves harmless, or even available as forage, frequently, when growing on certain soils, take up barium in quantities sufficient to cause poisoning, either acute or chronic, in live stock. All previous efforts to discover a poisonous principle in the so-called loco plants had failed; some believed that the condition known as "loco" was due to malnutrition or helminthiasis, while the few who had observed toxic effects from the administration of extracts of the plants believed the toxic agent to be some unstable body such, for example, as occurs in cannabis indica. Hence, the discovery that barium is the poisonous element is most surprising.

This work is unusually suggestive aside from being such a valuable contribution to a subject of great economic importance. It raises the question whether certain vegetables, etc., used as food by man may not become injurious in a similar way; also whether certain properties in virtue of which certain plants are recommended for therapeutic purposes are not more or less accidental. Thus Bunge found much iron in spinach, and this plant is often recommended as a "natural" source of iron in anemia; does spinach invariably contain iron, or is it a more or less accidental constituent dependent on the nature of the soil on which the plant is grown?

Barium is known to be decidedly poisonous to man (Crawford gives an excellent survey of the literature on this subject), and these experiments show that great care should be exercised in its medicinal use. It has also been shown that barium may be taken up at times by many plants; whether this is the case with plants used as food by man is not known, but it is evident that such possibilities must be kept in mind.

Perhaps the most suggestive feature of Crawford's work is that it affords another illustration of how injuriously small amounts of a substance may act when its use is long continued. Such subtle poisons are of the greatest interest to physicians; our knowledge of the number and the ways in which they may produce harm is increasing rapidly.

It will be interesting to see to what extent some of the arterial and renal diseases, the etiology of which is at present so obscure, will in the future be traced to the slow action of minute amounts of poisons contained in our food, just as some forms of gout are now attributed to chronic lead poisoning. Of interest in this connection are two recent papers on "Spontaneous Arterial Degeneration." Miles,[3] writing from Colorado, reported finding such degeneration in nearly 35 per cent. of the rabbits examined; Pearce,[4] writing from Albany, found it in but 6 per cent. May not the greater frequency of this "spontaneous" degeneration in Colorado be due to the forage plants of the former region containing minute amounts of some mineral poisons (possibly barium among them) taken up from the soil? It is known that barium contracts the arterioles and raises the blood pressure.

The fact that barium may occur in plants in sufficient amount to cause poisoning is of interest in connection with an argument frequently advanced in justification of the use of chemical preservatives in food, viz., that because small amounts of benzoic acid occur in cranberries, saltpeter in cabbage, etc., that this is sufficient to prove their harmlessness when added to food products. There may be no immediate evidence of harm—just as there is no evidence of harm when animals eat but little of the loco-weed—but it is not the immediate, obvious harm which is most important; it is the subtle changes caused by amounts too small to produce obvious effects which are of most importance.

Crawford's experiments, which go far toward clearing up a great economic problem, are thus of much interest from several other standpoints; they are, moreover, models of exact scientific work and will doubtlessly long remain as one of the most notable contributions to pharmacology made in America.

PRESIDENT ROOSEVELT AND A DEPARTMENT OF PUBLIC HEALTH.

During the International Congress on Tuberculosis a conference was held in Washington of those especially interested in the question of a national department of health. Among the organizations represented at this conference were the American Medical Association, the American Public Health Association, the Conference of

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[1] The Journal, Feb. 8, 1908, p. 458.

[2] Barium, A Cause of the Loco-Weed Disease. Bull. 129, Bureau of Plant Industry, Washington, D. C., 1908.

[3] The Journal, Oct. 5, 1907, p. 1173.

[4] The Journal, Sept. 26, 1908, p. 1056.

State and Provincial Boards of Health, the Medical Department of the Army, the United States Public Health and Marine-Hospital Service, the Committee of One Hundred, the American Association for the Advancement of Science, the National Child-Labor Committee, and the Organized Charities Association of New York.

The announcement was made at this meeting that President Roosevelt proposed, as one of his administration policies, the concentration into one department of the principal bureaus relating to public health, now scattered in different departments. A resolution was adopted heartily endorsing the President's plan. This decision of the President is both promising and encouraging, as the necessity of remedying present conditions has long been apparent to all who have given the question a moment's thought.

It is not known yet what department will be selected by the President for conversion into a department of health and allied subjects, though the Department of the Interior has been suggested. If this plan were adopted, some of the bureaus now in the Department of the Interior would be transferred to other departments, while such bureaus as Dr. Wyman's—the United States Public Health and Marine-Hospital Service—and Dr. Wiley's—the Bureau of Chemistry—both of which are doing such magnificent work for public health at the present time, would be transferred to the Department of the Interior. It has also been suggested that the health office of the City of Washington should be put under the same department, to the end that our national capital might be made a model of sanitation for the country and for the world. Where transfers are impracticable, a closer cooperation might be secured with such bureaus as that of the census, which collects vital statistics; the Bureau of Labor, which is interested in the medicoeconomic aspect of dangerous trades, such as accidents from machinery, child labor, etc.; the Bureau of Immigration and the Bureaus of Animal and Plant Industries, which are engaged in meat inspection, investigation of milk, water pollution, etc. The problem is not an easy one to solve, and undoubtedly the initial movement will be simply the transference of a few of the bureaus; a gradual rearrangement ought then to continue after the start has once been made.

The principal officials concerned in the proposed transfers, including Dr. Wyman, have publicly expressed their support of the President's policy, which has also the endorsement of most, if not all, of the important health, medical and labor organizations of the country. The two leading political parties in their platforms and the two leading candidates for the presidency have also declared in favor of substantially the same plan. This is the first presidential campaign in which public health has been thus recognized. It is most gratifying that this propaganda for a department of health is being taken up by organizations other than medical. This shows that the public realizes the desirability of more systematic and co-ordinate work on the part of the Government in matters that relate to public health. The work of the Committee of One Hundred, in interesting the public, members of Congress and others, has been a large factor during the last year and a half in producing the present satisfactory situation.

While this movement does not mean an independent department of health, with a physician at the head, and in the cabinet—something which seems to be out of the question for a time at least—it does mean a department whose chief function will be to guard the health of the people, including all that this involves. Hence, though it will not be all that we might desire, it will be a decided advance and a step in the right direction, and the President's plan should receive the hearty endorsement of the medical profession.

THE DENSLOW CURE (?) FOR TABES.

Grossly sensational reports have appeared in the daily press recently regarding a paper, read before the New York Academy of Medicine, describing an alleged cure for locomotor ataxia, the writer of the paper being a Dr. LeGrand N. Denslow. We have not been able to learn in what the "cure" consists, as our only information thus far is that which has appeared in the newspapers. Our New York correspondent, whom we asked to call on Dr. Denslow and get the facts regarding the matter, reports that the facts were refused him, but that he was told that they could be obtained from a letter which Dr. Denslow had sent to the *New York Times* for publication. This particular course of action, of itself, would be rather peculiar on the part of an honorable physician. Usually when a physician has important medical knowledge to impart he publishes it in medical journals—not in the newspapers.

The methods of this gentleman prompt us to ask whether or not he is the one we referred[1] to about a year and a half ago in connection with a similar "cure" exploited in London. As stated at that time, an American giving the name of LeGrand N. Denslow was summoned before the police magistrate of Marylebone and fined $150 and costs for using the title of doctor and physician, thereby implying that he was registered under the medical act. The evidence showed that the defendant had advertised that he was able to cure locomotor ataxia. According to the *British Medical Journal*, an advertisement appeared in the London daily papers, apparently from a person who had been cured of locomotor ataxia, offering to inform sufferers from the disease where they could get relief—the old, old scheme. Those answering the advertisement were referred to Denslow. When a representative of the Medical Defense Union—which was investigating the matter—called on Denslow the latter, it is alleged, stated that he could cure locomotor ataxia. His fee, he added, was 500 guineas for those who could afford it, but that he would soon be charging 1,000 guineas, as the cure cost him 150 guineas. In defence it was stated that LeGrand N. Denslow had numerous qualifications, including M.D. of New York, and that he had been practicing in America since 1876.

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[1] THE JOURNAL, Feb. 23, 1907, p. 715

Whether or not this LeGrand N. Denslow of locomotor ataxia notoriety in London is the same as the LeGrand N. Denslow who presented the paper before the New York Academy of Medicine, we have no means of knowing. Their methods seem to be very similar. According to the directories, one LeGrand N. Denslow, who was graduated by the College of Physicians and Surgeons in the city of New York in 1876, seems to have led a somewhat peripatetic existence. In 1886 he is recorded as practicing in St. Paul, Minn.; in 1896 he seems to have wandered west to Los Angeles, and by 1904 he had gravitated to New York. In the interim of 1904-1908 we have no record of his location, unless he be the one referred to by the British medical press in 1906.

As stated above, we know nothing about this particular "cure"; this much is sure, the method of exploitation will not commend itself to the medical profession in the United States.

THE SMOKE NUISANCE.

That American cities in general, and Chicago and Pittsburg in particular, suffer enormous losses in health and money from the smoke nuisance, is a fact that has become trite. Our London correspondent in this issue[1] refers to the good work done in that city by the Coal Smoke Abatement Society in attempting to free the city from the smoke nuisance. While in this country it is fondly believed that London is the "horrible example" in smoky cities, the fact is that several cities in the United States are far worse in this regard than is the British metropolis. In London the smoke nuisance arises from the old-fashioned but universal method of heating the dwellings. The modern steam-heated, or even furnace-heated, flat is almost an unknown quantity in London, except for a comparatively few high-priced apartments in the West End. Everywhere is found the open fireplace in each room, with its wasteful method of heating and its poor combustion. Where in New York or Chicago we would find thirty families living in one steam-heated apartment building with its single heating plant and comparatively good combustion and, therefore, little smoke, we would find in London the thirty families living in thirty separate, semidetached villas, each with its three or four fireplaces pouring out their full quota of smoke. On the other hand, the manufacturing plants in London are severely amenable to the law against the smoke nuisance—and, what is of still greater moment, the law is strictly enforced. The steam railways, particularly those in the suburban service in London, are not great offenders in producing smoke. Whether this is due to the construction of such engines, to the care in firing or to the quality of the coal used, or to all three of these factors, we can not say. The fact remains that the wide swath of cinders and soot that borders each side of a suburban steam track through an American city is lacking. Nevertheless, at least one London suburban line—the South London Railway—has nearly completed the electrification of its system. In American cities the smoke nuisance is due almost entirely to the indifference displayed by the manufacturers and the railroads to the law regulating—or supposedly regulating—smoke production. The individual householder is a negligible quantity. In spite of the fact, often demonstrated and reiterated by our correspondent, that "in industrial concerns the abatement of the smoke nuisance by mechanical apparatus is found to be generally attended with economical working," it seems impossible to convince American manufacturers that their own interests lie in that direction. The menace to health and the incalculable damage to property due to the smoke nuisance will continue in American cities so long as the enforcement of law is trifled with.

THE EXHIBITS AT THE TUBERCULOSIS CONGRESS.

The exhibits of the International Congress on Tuberculosis probably constituted the greatest antituberculosis exhibition ever assembled. In another column[1] we describe many of its features. It is natural that, because of its nearness, the United States should lead in the size and elaborateness of the exhibits when classified by countries. Of the foreign exhibits, those of Germany, England, and Sweden are the best, with Germany leading. The states making creditable exhibits are New York, Pennsylvania, Massachusetts, Connecticut, Colorado, Minnesota, Maine, Michigan, Maryland and Wisconsin. The Army and Navy exhibit is very meritorious. Of the educational exhibits given by states, that of New York, particularly including the New York City exhibit, is by far the best. From a scientific standpoint, Pennsylvania, and particularly the Phipps Institute, leads. Some of the states had no exhibit. Practically every sanatorium in the country, outside of a few states, had an exhibit. The work reflects great credit on all concerned.

Medical News

GEORGIA.

Sanitarium Sold.—The Piedmont Sanitarium, Atlanta, established by Drs. Floyd W. McRae and Ludwig Amster, has been purchased by Drs. Amster, E. Bates Block and Michael Hoke for $24,000. Plans are being made for extensive improvements and the erection of new buildings. Dr. McRae will continue his connection with the sanitarium.

Medical Schools Open.—The Atlanta School of Medicine opened its annual session September 22, at which addresses were given by the governor and by Rev. C. R. Wilmer, D.D. ——The Medical College of Georgia, Augusta, opened for its annual session October 1.——The fifty-fourth session of Atlanta College of Physicians and Surgeons commenced September 23.

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[1] London Letter, p. 1345.

[1] See page 1369 of this issue.

Personal.—Dr. Willis B. Jones has succeeded Dr. William P. Nicholson as attending physician on the staff of the Grady Hospital, Atlanta.——Dr. Maury M. Stapler, Macon, has been appointed surgeon for the Georgia Southern & Florida Railway.——Dr. Thomas H. Hall, Macon, has been elected optician for the Academy for the Blind.——Dr. W. Whatley Battey, Jr., Augusta, has been elected secretary of the Surgeons' Club, Rochester, Minn.

ILLINOIS.

Diphtheria.—Kankakee reports six cases of diphtheria.——An epidemic of diphtheria is feared at Waukegan, where several cases have been reported.

Personal.—Dr. George Stacy has been appointed pathologist to the Illinois Central Hospital for the Insane, Jacksonville.——Dr. Robert F. Hayes, Freeport, who has practiced medicine for more than fifty years in Stephenson County, has decided to retire from practice.

Branch Society Meeting.—At the annual meeting of the Evanston Branch of the Chicago Medical Society, the following officers were elected: President, Dr. Stephen V. Balderston; secretary-treasurer, Dr. William C. Danforth; councilor, Dr. Ernest L. McEwen; and alternate, Dr. George W. Boot.

Chicago.

Fined.—Ottolie Blaha and Mary Vollmann, accused with practicing medicine without a license, are each said to have been fined $100 and costs by Municipal Judge Scovel, September 28.

Discourse on Tuberculosis.—Prof. O. Medin of the Karolinska Institute, Stockholm, a delegate from Sweden to the International Congress on Tuberculosis, delivered a lecture October 6, at the Young Men's Christian Association auditorium, on "Method and Prevention of Tuberculosis in Children."

Adams Succeeds Senn.—Dr. Charles Adams, for more than twenty years a medical officer of the Illinois National Guard, and one of the pioneers in reorganizing the medical department that it might approximate as nearly as possible to the medical corps of the Army, was appointed by the governor surgeon general of the state October 9.

September Mortality.—The total deaths during September were 2,818, equivalent to an annual death rate of 13 per 1,000. Acute intestinal diseases caused 544 deaths; consumption, 252; violence (including suicide), 171; heart diseases, 161; nephritis, 150; pneumonia, 136; cancer, 101; typhoid fever, 42; diphtheria, 41; scarlet fever, 29; whooping cough, 7, and measles, 5.

New Head for Tuberculosis Institute.—Frank E. Wing, who is at present engaged in investigating health conditions in Pittsburg, was elected superintendent of the Chicago Tuberculosis Institute, October 9, to succeed Alexander Wilson. S. C. Kingsley, superintendent of the Chicago Relief and Aid Society, was elected secretary, vice Ernest P. Bicknell, who has gone to New York to take charge of the American National Red Cross work.

To Guard Against Contagion.—On account of complaints made to inspectors of the health department that the police were not giving sufficient support to the employés of the Health Department in enforcing quarantine in contagious diseases, a general order was issued October 9, by the chief of police, directing the commanding officers to instruct their men that the warning cards of the health department were not to be torn down, and also that infected children were to be kept off the street.

INDIANA.

Epidemic Diseases.—Bedford reports an epidemic of scarlet fever.——Several cases of scarlet fever are reported from Warsaw.——Diphtheria is said to be epidemic in Columbus.

Personal.—Dr. David C. Peyton, Jeffersonville, has been appointed secretary of the Clark County Board of Health, vice Dr. W. Marshall Varble, resigned.——Dr. John F. Glover, chief of the medical staff of the Southern Hospital for the Insane, Evansville, has returned after three months' absence on account of nervous exhaustion.——Dr. James Y. Welborn has been elected president; Dr. E. C. Taylor, secretary; and Drs. Charles P. Bacon and E. P. Busse have been elected directors of the Evansville Anti-Tuberculosis Society.——Dr. Harry B. Smith, Kokomo, has been appointed to succeed Dr. Harry C. Sharp, resigned, as physician at the Indiana Reformatory, Jeffersonville.——Dr. Charles E. Barnett, Fort Wayne, sailed for Europe September 28.——Dr. James E. King, Richmond, has been named health officer of Wayne County, vice Dr. George H. Grant, deceased.

IOWA.

Personal.—On account of a question of ethics, Drs. Addison C. Page, Oliver J. Fay, L. D. Piper, R. J. Lynch, Mathew L. Turner, Charles M. Werts, J. F. McKitrick, David W. Smouse, Charles F. Smith, Lewis Schooler, Granville N. Ryan and W. O. Smouse have resigned from the Grant Club, Des Moines.——Dr. Thomas A. Burcham, Des Moines, has been appointed physician of Polk County, vice Dr. Corvus C. Lang, Altoona, resigned.

Communicable Diseases.—The Campbell school in Fremont township has been closed for a week on account of the presence of several cases of spinal meningitis among the pupils.——Several cases of diphtheria are noted in South Muscatine.——Typhoid fever is reported to be epidemic in Fairfield, where 47 cases were reported during September.——Ottumwa reports 17 cases of typhoid fever.——Twenty-two cases of typhoid fever are reported in Brighton.

KENTUCKY.

Appropriation for Medical College.—The general council of Louisville has passed an ordinance which has been signed by the mayor, appropriating $25,000 from the general purpose fund for 1908, for the use of the Medical Department of the University of Louisville. The money is to be expended entirely for laboratory equipment for the consolidated medical schools. A preliminary course will begin October 15, and will continue until the opening of the regular session, November 18.

Communicable Diseases.—On account of the prevalence of scarlet fever in Springfield, the schools have been closed for one week.——Typhoid fever is reported to be epidemic in several parts of Nicholas County.——Diphtheria and scarlet fever are reported to be prevalent at Buchanan, and the public school has been closed.——The public school of Glasgow has been ordered closed on account of diphtheria.——Typhoid fever is said to be prevalent at Merry Oaks, Railton and Hink.——The school at Prestonia has been closed on account of diphtheria.

Personal.—W. E. Bender, formerly second assistant physician at the Eastern Kentucky Asylum for the Insane, Lexington, has been appointed to a similar position in the Western Kentucky Asylum, Hopkinsville.——Dr. Frederick A. Stine, Jr., has been elected president and Dr. Fred C. Weber, secretary of the board of health of Newport, and Dr. Charles J. Kehm, health officer.——Dr. Roy Robinson, Morton's Gap, has been appointed third assistant physician at the Western Asylum for the Insane, Hopkinsville.——Dr. Alexander A. Hendrix, an aged practitioner of Crofton, has been adjudged of unsound mind.——Dr. James A. Averdick, Covington, is reported to be seriously ill with septicemia, following an operation wound.

MARYLAND.

Faculty Borrows.—The building committee of the Medical and Chirurgical Faculty of Maryland has been authorized by that body to borrow a sum not exceeding $15,000, in addition to the $25,000 previously obtained on mortgage, required to complete the building.

Baltimore.

College Opens.—The College of Physicians and Surgeons of Baltimore opened for its annual session October 5.

Lecture on Bronchoscopy.—Dr. Herman von Schrötter, Vienna, delegate from Austria to the International Congress on Tuberculosis, delivered an illustrated lecture on "Bronchoscopy" in the Medical amphitheater of Johns Hopkins Hospital, October 7.

Gibson in Baltimore.—Dr. George A. Gibson of Edinburgh, Scotland, lectured before the Johns Hopkins Hospital Medical Society October 1 on "Certain Clinical Features of Cardiac Disease." Dr. Gibson was entertained at dinner at the Maryland Club by Dr. Lewellys F. Barker.

Entertains Guests From Abroad.—The Health Commissioner, Dr. James Bosley, entertained Drs. John C. Thresh of the London Hospital Medical College; Robert B. Harkness, Commissioner of Health, of Birmingham, Ala., and other delegates to the International Congress on Tuberculosis, at the health office, October 6.

Hospital Dedicated.—The new Samuel Leon Frank Hospital, a part of the Hebrew Hospital and Asylum, was dedicated October 8. The building was erected by Mrs. Frank at a cost of $100,000. Addresses were delivered by Dr. Harry Adler, president; Dr. Lewellys F. Barker, the governor of the state, the mayor of Baltimore, and Mr. Israel Zangwill. The hospital will have accommodation for about 80 patients.

MASSACHUSETTS.

Consumptive Camps Ready.—The Cambridge board of health on September 17 opened the new camps on Concord Avenue for the reception of consumptive patients. The camps have a capacity of 50.

Hospital Dedicated.—The new Beverly Hospital, erected at a cost of about $100.000. was recently dedicated. The institution consists of an administration building. a pavilion two stories in height. and an operating building. The second pavilion and nurses' home are yet to be built.

Work of Floating Hospital.—The Boston Floating Hospital made its farewell cruise on her fifteenth season. September 15. During the season which began July 1 more than 18.000 babies and mothers have been cared for by this beneficent institution. Dr. John Paul was resident physician for the season.

Swindler Pleaded Guilty.—Oliver G. Beauvans. regarding whom warning was published in THE JOURNAL of September 26. was arraigned in the municipal court. Boston. charged with swindling Backbay physicians on orders for medical books, and is said to have pleaded guilty and to have been sentenced to imprisonment for three months in the House of Correction.

Tag Day at South Framingham.—On October 3 the benefit day for the Framingham Hospital was held. the object being to make up a deficit of $3.000 in the running expenses of the hospital for the fiscal year about to end. One individual offered to contribute $1.000 provided the other $2.000 was raised. The young women of the town. armed with thousands of red-cross tags. picketed the town, exchanging tags for contributions to the fund.

Contagious Diseases.—On account of two cases of diphtheria in the Hunnewell grammar school. Wellesley. the school was closed September 25 by the board of health.——Four cases of diphtheria have occurred in one boarding house in Worcester, among Clark College students.——Newburyport announces that there were 26 cases of typhoid fever reported in the city in the six weeks ended September 6.——The epidemic of typhoid fever in Westfield is now believed to be checked.

NEW YORK.

New York City.

Personal.—Dr. W. T. Bull is reported seriously sick.

Entertain Delegates.—The foreign delegates to the International Tuberculosis were taken to the Sea Breeze Hospital for Tuberculous Diseases of the Bones. Joints and Glands in Children. October 8. and were dined and entertained at the Academy of Medicine the same evening.

To Promote Fraternal Relations.—The Eastern Medical Society of the City of New York has completed arrangements for a dinner and reception to be given on Thanksgiving night, November 26. at the Hotel Astor. By this social gathering the society hopes to promote better fraternal relationship.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 3. 481 cases of tuberculosis, with 153 deaths; 266 cases of diphtheria. with 21 deaths; 102 cases of scarlet fever. with 4 deaths; 100 cases of typhoid fever. with 19 deaths: 21 cases of whooping cough. with 2 deaths; 7 cases of cerebrospinal meningitis, with 5 deaths; 96 cases of measles, with 2 deaths: a total of 1.073 cases and 206 deaths.

Insanitary Condition of Tenements.—The prevalence of cholera in Europe makes it especially important that insanitary conditions be not permitted in New York's crowded tenements. Unless the tenement houses are kept in a sanitary condition, cholera, if it reached this country. would find a ready field for its spread. An increased appropriation is needed by the Tenement House Department. and unless public sentiment is indicated effectively to the members of the Board of Estimate and Apportionment. there is little likelihood that this increase in the appropriation will be granted.

The Denslow Case.—The committee appointed by the president of the New York Neurological Society to report on the circumstances attending the reading of a recent paper on locomotor ataxia before the New York Academy of Medicine, reported: "Your committee expresses disapproval of the occurrences following the reading of Dr. Denslow's paper. It is the belief of your committee that papers which express radical views should be freely discussed at the time of their presentation and that every effort should be made to prevent the publication in the newspapers of communications which set forth promise of cure of diseases which are generally held to be incurable. Your committee further believes that, before such "cures" are exploited. they should be submitted to the most rigid investigation."

OHIO.

Medical College Opens.—The Cleveland College of Physicians and Surgeons opened for its fall term October 1. Rev. Charles Bayard Mitchell delivering the address on "The Making of a Doctor."

Personal.—Dr. George N. Stewart. professor of experimental medicine in Western Reserve University. has returned from abroad.——Dr. Maulsby W. Blackman has been made lecturer in histology and Dr. Roger G. Perkins associate professor of pathology and hygiene in Western Reserve University Medical School.——Dr. Paul W. Tappan. Dayton. has been appointed physician at the Montgomery County Infirmary.——Dr. and Mrs. E. H. Rorick, Fayette, assumed charge, October 2. as superintendent and matron of the Athens State Hospital for the Insane. respectively, vice Dr. and Mrs. J. T. Hanson. resigned.——Dr. Lark Moon, Columbus, is reported to be critically ill at his home.

Cincinnati.

Medical College Opens.—Miami Medical College opened for its forty-ninth annual session October 1, the address being made by the dean. Dr. John C. Oliver.

Proposed Merger of Medical Colleges.—At the autumn meeting of the Cincinnati University senate, the question of the amalgamation of the Ohio Medical College with the Miami Medical College was discussed, and Dean Forchheimer and Dr. B. Knox Rachford were appointed a committee to draw plans for the merging of the two institutions.

Personal.—Dr. Oliver P. Holt has been elected professor of theory and practice of medicine in Miami College, vice Dr. Joseph Eichberg. deceased; Dr. Walter E. Murphy. assistant professor of otology and laryngology: Dr. Mark A. Brown, professor of clinical medicine; Dr. John H. Landis. professor of hygiene. vice Dr. Samuel E. Allen. and Dr. Archibald S. Carson. professor of pathology. vice Dr. Oliver P. Holt.——Dr. Rolla L. Thomas has been elected pathologist to St. Mary's Hospital.——Dr. Edward P. Adams narrowly escaped drowning in the Little Miami river September 27.

PENNSYLVANIA.

Public Schools Closed.—Acting under instructions from the State Board of Health. H. C. Kries. health officer of Blythe Township. closed the public and parochial schools of New Philadelphia. This action was taken on account of the presence of diphtheria. from which 5 deaths have been reported. ——The Saltsbuy schools have been closed on account of the prevalence of diphtheria.

Personal.—Dr. J. D. Bliss. formerly resident physician at Altoona Hospital. has been made *x*-ray surgeon of that institution.——Dr. Benjamin F. Myers, Chambersburg, has been appointed physician to the Franklin County jail. vice Dr. John P. Seibert. deceased.——Dr. David N. Dennis. Erie, sailed for Europe. Oct. 10.——Dr. Geo. W. Schlindwein has been appointed. assistant ophthalmologist at St. Francis' Hospital. Erie.——O. D. Blakeley. Franklin. has been appointed by Governor Stuart to the board of trustees of the State Hospital, Polk. The governor also appointed Malcolm McDougal, Morris Run, to the board of trustees of the Cottage Hospital, Bloomsburg.

Communicable Diseases.—An epidemic of scarlet fever is reported in Allentown. where 40 cases and 11 deaths have occurred in the last two weeks.——Several cases of diphtheria are reported among pupils of the Jackson school, Williamsport.——Diphtheria is said to be prevalent at Reedsville, where schools have been closed. at Yeagerstown and in Lewistown.—The eighth case of smallpox. resulting from the Cumberland County epidemic, was reported September 24. from Deans Gap.——The fifth case of smallpox in the Enola region was reported September 21.——The state health commissioner has issued an open letter warning the entire state of possible infection from smallpox. and pointing out that immediate vaccination is the only safe course to pursue.——An epidemic of typhoid fever is reported at Mt. Union. where 20 cases are said to exist.——The epidemic of typhoid fever at Rainsburg is said to be on the increase.

Philadelphia.

University Hospital Improvements.—In line with improvements and extensions contemplated at the University Hospital. the students' ward has been moved from one of the wings to a new location on the second floor of the main building.

Connected with this ward and separate from the general hospital is a student's special diet kitchen with appliances of the most modern type. The development and perfection of these accommodations for the students is due to the work of the ladies' auxiliary committee.

Personal.—Dr. Howard F. Hansell has returned from Europe. ——Dr. William W. Keen, who recently sustained a dislocation of the right shoulder joint as the result of a fall, is convalescing——Dr. Anne H. Thomas was recently elected an instructor in physical diagnosis and therapeutics in the Woman's Medical College and appointed assistant physician to the Bryn Mawr Hospital.——Dr. Harry R. Mansfield was thrown from an automobile ambulance October 6 and sustained a severe scalp wound and a dislocation of the right shoulder joint.

Health Report.—The report of the bureau of health for the week ending October 10 reached 402, a decrease of 50 from the previous week and a decrease of 4 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 5; pertussis, 3; diphtheria, 9; consumption, 49; cancer, 15; apoplexy, 10; hepatic cirrhosis, 5; nephritis, 35; heart disease, 29; arteritis, 6; acute respiratory disease, 35; enteritis, 31; premature birth, 10; congenital debility, 16; senility, 4; suicide, 4; accidents, 21; and marasmus, 9. There were 142 cases of contagious disease reported, with 15 deaths, as compared with 204 cases and 20 deaths reported in the preceding 7 days.

Foreign Delegates Entertained.—Delegates to the International Conference on Tuberculosis were entertained September 24, 25 and 26 by physicians and citizens. On the first day they were conducted through the various departments of the University of Pennsylvania, after which luncheon was served in their honor at the Houston Club; and in the evening they were the guests of the Henry Phipps Institute. On the second day, Jefferson Medical College and Hospital was visited, and luncheon was served on the roof garden of the latter. In the evening a banquet was given in their honor, in which Dr. Edgar Smith was toastmaster. On October 26 they visited the Philadelphia General Hospital and the Municipal Hospital, and were entertained at luncheon at the club of the Medico Chirurgical College; and in the evening were conveyed in special trolley cars to the Josephine Widener Memorial Home for Crippled Children, where after inspection of the building, they were given a lawn supper.

MEDICAL DAY OF FOUNDERS' WEEK.

The physicians of Philadelphia and vicinity celebrated medical day on October 8, in association with the celebration of the two hundred and twenty-fifth anniversary of the founding of the city. The exercises were held in the Walnut Street Theater.

Dr. John V. Shoemaker. chairman of the committee of arrangements, presided, and in opening the exercises said that $7,500 were given by the city for medical day, of which $6,800 was to be used in publishing the memorial volume, $200 for the medical exhibit in the city hall and $500 for the entertainment of visiting physicians. He spoke of Philadelphia being the medical center of the United States and the first city to establish a hospital and university in this country.

Dr Charles K. Mills chairman of the committee on publication, said that the memorial volume would contain from 800 to 1,000 pages, and would record the events of founders' week and contain a history of the hospitals, medical schools, prominent physicians and scientific institutions from the time of the city's founding to the present day.

Dr Frederick P. Henry, editor of the volume, said that the work required the labor of sixty collaborators from as many hospitals and medical institutions. The volume will also show how the medical institutions took care of the poor and sick from 1693 to 1908.

Prof. Joseph P. Remington, chairman of the historical exhibit—medical, pharmaceutical, chemical and scientific—said that the exhibit contained about 400 historical objects, among them being the original dispensatory of William Penn, which was brought by him to this country in 1683.

Dr. L. Webster Fox. chairman of the committee on Medical Day, reviewed the work of the committee in preparing the exercises for the day.

MEDICAL COLLEGES AND ALLIED INSTITUTIONS OF PHILADELPHIA.

Dr. George A. Piersol, University of Pennsylvania: Prior to 1682 medical treatment was carried on along the Delaware by the housewife. Medical camps were established and were conducted by Dr. Griffith Owen, who practiced medicine for thirty-five years, dying in 1717. At this time Dr. John Kerslee came and taught the young Americans the art of medicine. In 1731 the first medical almshouse was founded, and in 1752 the first hospital, the Pennsylvania, was established. Some of Kerslee's pupils were sent abroad to further their studies, and two of them, Dr. John Shippen and Dr. John Morgan, established the first medical school in this country in 1762. Dr. Shippen at this time also started public anatomic lectures in the Pennsylvania Hospital. Dr. John Morgan in 1765 founded the University of Pennsylvania and became its first professor of the theory and practice of medicine. Later he was associated with Dr. Shippen and in the following year with Dr. Thomas Bond in the University of Pennsylvania. In 1768 the first medical degree was given. Before that time, the degree was known as Bachelor of Physic, and S. Benjamin Rush was made a professor in 1769. The first medical graduate was John Archer. In 1791 the University of Pennsylvania and the Philadelphia College amalgamated and 60 years after the establishment of the University Dr. Chapman started extramural teaching and the quiz class. In 1822 Dr. Jasen Lawrence founded the Philadelphia School of Anatomy and two years later Dr. McClellan created a medical school in association with the Jefferson College at Cannonsburg, and in 1825 the first faculty of this institution was organized. In 1838 this became an independent institution, and in 1841 the faculty was reorganized. In 1840 Dr. McClellan organized the Pennsylvania Medical School. Later the Franklin Medical School was established, and following this the Philadelphia Medical College, and in 1859 a fusion of these institutions was made. Hahnemann College, the oldest in this country, was founded in 1848, and in 1849 the first woman graduated in medicine in this country. In 1850 the Woman's Medical College was established and one year later eight women graduated—the first class of women graduated in this country. In 1881 the Medico-Chirurgical College was founded. In 1883 the Polyclinic Hospital and School for Graduates in Medicine was organized, and in 1902 the Medical Department of Temple University was started. Seventy-five years after the founding of the first medical school, dental schools were founded; the first was established in Baltimore in 1840 and in 1852 the Pennsylvania Dental College was started. In 1863 the Philadelphia Dental College began and 1878 the University of Pennsylvania added its Dental Department. In 1897 the Medico Chirurgical College added a similar department. In 1743 the American Philosophical Society was founded by Benjamin Franklin, and in 1750 the American Society for the Advancement of Science was started; 30 years later these bodies joined forces. The College of Physicians was founded in 1778; the library of this institution was started by eight volumes donated by Dr. John Morgan, and, excepting the medical library in the Surgeon General's Office, is the largest medical library in the United States. The Academy of Natural Sciences was founded by John Speakman in 1812.

SOME GREAT MEDICAL TEACHERS OF PHILADELPHIA.

Dr. S. Solis Cohen: There are more than 52 hospitals and dispensaries in the city, representing an investment of between eight and ten million dollars, and an expenditure of from four to five millions annually. Even this, however, is not enough for the needs of the city, greater facilities being required for the insane and for individuals in the advanced stage of tuberculosis. Whether the Philadelphia General Hospital—Blockley—or the Pennsylvania Hospital has the honor of priority the historians must decide, but in both medical instruction was begun about the middle of the eighteenth century, and the practical lessons in the recognition and treatment of disease given at these institutions have attracted students from all over the civilized world. It was at the Philadelphia General Hospital that Gerhard finally proved the difference between typhoid and typhus. Those who have been taught at these schools have in turn become teachers, and there is in America hardly a teacher of medicine whose knowledge and whose work are not derived directly or indirectly from the great medical teachers of Philadelphia. Benjamin Rush of the University of Pennsylvania represented the best of the eighteenth century, and after Franklin was the foremost citizen of the state; and Jacob Mendes DaCosta represented the best of the seventeenth century. Rush did not confine his activities to medicine. but was also a member of congress and served in the Revolutionary Army at Valley Forge and elsewhere. DaCosta. on the other hand, was essentially a physician and teacher. though he urged on his students the cultivation of general science and literature. The teaching of Dr. Isaac Hayes, in the *American Journal of Medical Sciences* and that of other great editors of Philadelphia and the work of the great publishing houses of Philadelphia has never lost prestige, and the city may be considered as the center of medical literature.

HISTORY OF THE DEVELOPMENT OF PRACTICAL MEDICINE IN PHILADELPHIA.

DR. J. M. ANDERS: We of the present day must feel devoutly thankful to the founders of medical science in Philadelphia—to Kearsley, Cadwalader, the Bonds, the elder Shippen, Morgan, Jones, Rush, Gerhard and many others, whose enterprise was not guided and assisted by well-equipped laboratories and overfilled hospital wards. The earliest settlements in Pennsylvania were made by the Swedes and the Dutch, and the first representative of the medical profession, so far as is known, was Jan Petersen, a barber of Alfendolft, who was surgeon to one of the Swedish colonies on the Delaware at a salary of ten guilders a month, beginning July 10, 1638. The first practicing physician was John Goodson of London, who came over as surgeon to the Society of Free Traders shortly before Penn's visit. With the exception of Goodson, Dr. Nicholas Moore, a member of the same body, the barber surgeon prevailed prior to the coming of Penn in 1682. In those days the people were less dependent on physicians in cases of ordinary illness than they are to-day, their chief need being in surgical and difficult obstetrical cases. People were prone to self-medication to a great extent, though not in the modern sense. Even in a greater degree than is true of sparsely settled districts to-day, the people were familiar with common vegetation and its medicinal virtues. Much of this knowledge was acquired from the Indians. In Norris' Garden in Philadelphia many of these plants were grown, and it was an annual custom of the ladies of the family to distribute them among the poor and needy. In 1699 the city suffered an epidemic of yellow fever, and about 220 deaths occurred. In the following year, when Philadelphia had about 700 houses in the neighborhood of the Delaware wharf, the first quarantine law was passed. It was as quarantine physician that Dr. Thomas Graeme served the city more or less constantly during forty years. The first physician of real note in Pennsylvania was Griffith Owen, a Welshman, who, with Dr. Thomas Wynne, came over on the *Welcome*, with Penn. The first amputation performed in Pennsylvania of which any record exists, was done by Griffith Owen (the pioneer). Thomas Wynne never actively followed his profession, but became judge of the principal Supreme Court, and also president of the first assembly held in Philadelphia. During the next decade, a number of men destined to fame in the Annals of Philadelphia Medicine rose slowly above the horizon. Some of these had been apprentices of John Kearsley, others occasionally attendants at his lectures, and several, although later, went abroad to amplify their medical knowledge. Among the latter, much credit should be given to Lloyd Zachary, Phineas Bond, Thos. Bond, Thos. Cadwalader, Wm. Shippen, Jr., and John Morgan for bringing about the more important earlier advances in practical medicine in Philadelphia. Thomas Bond was first to recognize the advantages of the institution method of treating diseases, and the first to found a hospital, namely, the Pennsylvania Hospital, while it was reserved for Morgan to found the first school in America devoted to the teaching of medicine, the Medical Department of the University of Pennsylvania. Cadwalader was the first physician in America to employ electricity in the treatment of disease in a case of paralysis. Prior to 1790, midwifery was almost solely practiced by women, except in difficult cases. The most famous of the Philadelphia midwives was Lydia Darrach, a noted Revolutionary whig, who occupied the celebrated Loxley House. The control of the medical service of the Continental Army was almost solely in the hands of Philadelphia men, hence the history of the Revolutionary period is actually concurrent with that of the history of practical medicine in Philadelphia. This was especially true during the period when sick soldiers were quartered in Philadelphia, e. g., some in the Pennsylvania Hospital and many more in the "Bettering House," and scattered private dwelling houses. The mortality was dreadful and bodies were literally piled into Potter's field, now Washington Square. At an early date the physician was sharply delineated from the surgeon, by Morgan, after which obstetrics became the first specialty. Morgan was the first physician who insisted on sending his patients to an apothecary shop for their medicines. At the suggestion of Dr. Henry Moyer, Samuel Powell Griffith aided in founding the Philadelphia Dispensary, the first of its kind in America. In the epidemic of yellow fever, which occurred in 1793, Rush, in his advocacy of bleeding and purging, divided the profession into two camps. His opinions were widely accepted by the public, but by a minority of his fellow practitioners, and this led to his resignation from the College of Physicians, an institution which he had helped to found in 1786. The College of Physicians had done such splendid work that it was appealed to by the governor in 1794 for suggestions as to the best method of safeguarding the public health. The formation of a body resulted, later known as the "Board of Health." After the demise of Rush, a group of his former pupils came to the front, and as knowledge grew and the tendency toward specialism increased, the supreme dominance of the individual ceased for all time, and collective effort, which had its origin with Morgan and his associates, now became the rule. This explains the multiplication of schools and private institutions for the dissemination of medical knowledge. Then, too, factors prevailed not entirely foreign to our latter-day institutions, although always most regrettable, viz., internal dissensions. In 1820 Dr. Nathaniel Chapman founded the first permanent medical journal in America, *The Philadelphia Journal of the Medical and Physical Sciences*, now known as the *American Journal of the Medical Sciences.* The rapid multiplication of medical schools, the low standard and the short course requisite for the degree, served to invite a measure of opprobrium that was only too apparent, and these conditions were directly responsible for the origin of the American Medical Association, which was designed as a moral uplift to bring about a better state of medical ethics in the land. In 1844 the late Dr. N. S. Davis urged a national convention for the consideration of these problems. The first meeting was held in New York in 1846, and the only Philadelphia school to join in the movement was the Medical Department of the Pennsylvania College, the more recent of the two schools founded by Dr. George McClellan. In the following year, representatives of twenty-eight medical colleges and forty medical societies assembled in Philadelphia. A report on medical ethics was submitted, and a plea for higher educational requirements was made to the colleges. Dr. Nathaniel Chapman of the University of Pennsylvania was the first president, Dr. Alfred Stille one of the two secretaries, and Dr. Isaac Hayes, treasurer. In the tuberculosis crusade, Philadelphia leads all other cities of the Union. The magnificent accomplishments of the Phipps Institute, headed by Dr. Flick, in the past, aided recently by the health departments of the state and city, as well as by the Pennsylvania Society for the Prevention of Tuberculosis, and other agencies make a most impressive showing in humanity's fight against this dread disease. Moreover, there are signs of a public awakening to the possibility of a successful advance on the great white plague, both in the direction of prevention and cure. In conclusion, while Philadelphia is venerable and her medical traditions are an inspiration to the present generation, while her scientific and practical developments have been happily blent with a sound spirit of conservatism, while we owe filial allegiance to the prophetic vision of, and the nourishment continually derived from, the great masters of the past, we must concern ourselves chiefly with the present and the future; and to this end, we must set high standards in the profession, putting aside rivalries of system and petty jealousies, and with sustained earnestness of purpose provide for the advance of theory and practical achievement in the days to come. Along this line I would urge an interchange of professors in the various schools, both at home and abroad—an innovation, to be sure, but one that could be entered on with advantage to professional amity, and thus wield a beneficent influence on the student body, general profession and public alike.

TENNESSEE.

Personal.—Dr. W. Likley Simpson, Memphis, sailed October 3 for Europe.——Dr. Benjamin F. Young, Knoxville, has returned after several months abroad.——Dr. J. McChesney Hogshead, Chattanooga, has been forced temporarily to abandon his practice on account of his health.——Dr. Charles H. Davis has been elected a member of the staff of the Knoxville General Hospital.——Dr. Henry B. Edmondson, Bristol, is ill with melancholia in a sanitarium in Baltimore.

Communicable Diseases.—The reports of the epidemic of diphtheria in Jackson are said to have been exaggerated, as only 8 cases are under treatment at present.——Diphtheria is said to be increasing in Pinson, where the public school has been ordered closed.——Scarlet fever and diphtheria are still reported to be epidemic in Rockwood, where schools and churches have been closed and public meetings interdicted.—— Diphtheria is said to be increasing in and around Denmark.

GENERAL.

Death of President Gilman.—Daniel Coit Gilman, president emeritus of Johns Hopkins University, Baltimore, and the first president of the Carnegie Institution, died October 13, at Norwich, Conn. Dr. Gilman was particularly interested in the medical department of Johns Hopkins University and aided greatly in the advance of medical education in the United States.

Medical Museum Association.—The second meeting of the International Association of Medical Museums was held in Washington October 1 and 2. Dr. William G. MacCallum, Baltimore, was elected president; Dr. Sims Woodhead, Cambridge, vice-president; and Dr. Maud E. Abbott, Montreal, secretary-treasurer. It was decided to publish a bulletin and an editorial committee consisting of Drs. Aldred S. Warthin, Ann Arbor, Mich.; Dr. Aschhoff, Freiburg, Germany; and Dr. Frederick F. Russell, Washington, with the president and secretary ex-officio, was appointed. Among the subjects discussed at the meeting were "The Exchange of Specimens," "Elevation of the Medical Museum as a Teaching Medium," "Index Pathologicus," "Classification of Specimens," and "Methods of Technic." The next meeting of the association will be held in Boston in April next, following the meeting of the Association of American Pathologists and Bacteriologists.

FOREIGN.

Havana Exchange Enters Its Teens.—The twelfth anniversary of the foundation of the *Revista de Medicina y Cirugia*, of Havana, Cuba, was celebrated September 20 with a banquet, attended by about fifty guests, including C. E. Finlay, Agramonte and Santos Fernandez.

Institutional Provision for Tuberculous in Denmark.—The *Tidsskrift for den Norske Lægeforening* states that the completion of the sanatorium at Nakkebolle gives a larger number of beds in the popular tuberculosis sanatoria than there is *per capita* of the total population in any other country. The sanatoria can accommodate now 1,000.

Statistics of German Sickness Insurance.—The figures for 1906 have just been published and show that nearly twelve million working people were insured, and that four and a half million became incapacitated for work, with a total of 87.5 million days of sickness. The expenses were 264 million marks, while the companies took in 293 millions. The amount paid out in indemnities was 104 million marks, to hospitals and sanatoria 32 million marks, and to physicians 57 million marks ($13,680,000), while 36 million marks were dispensed in medicines.

LONDON LETTER.

(*From Our Regular Correspondent.*)

London, Sept. 26, 1908.

Exhibition at the Clinical Museum.

Mr. Jonathan Hutchinson is preparing at the Clinical Museum a third classified exhibition of drawings and models of syphilis for which he invites loans. It will be arranged under the heads of primary, secondary and tertiary phenomena. Among other points, special attention will be paid to erratic chancres, the classification and diagnosis of non-indurated sores (ulcus molle), malignant syphilis, frambesial syphilis, serpiginous or lupoid syphilis, syphilis of viscera, ophthalmoscopic conditions, the teeth, histology and parasitism. The exhibition will be open for a month, beginning on October 1.

Legal Obligation to Conduct Labor with Antiseptic Precautions.

A case has been heard at the sheriff's court, Greenock, Scotland, in which the obligation of a doctor to use antiseptics in conducting labor has been decided for the first time in the British Isles. A doctor sought to recover $115 for attending a woman prior to and during her confinement. Her husband made a counter claim for $2,400 for expenses which, he contended, were necessary as the result of carelessness on the part of the doctor. Among the items were a fee of $1,000 for a consultant and $200 for three months' residence at the seaside during convalescence. The counter claim was principally based on the want of antiseptic precautions during labor. In his finding the sheriff stated that it was the usual practice in the medical profession to sterilize the instruments used at a confinement either by boiling or steeping in a solution of carbolic acid or by both methods; that the physician in this case did not sterilize his instruments; on the other hand, the defendant did not prove that the illness from which his wife suffered was caused by the physician's failure to sterilize his instruments or by negligence or want of care or unskilfulness on his part. The sheriff found that it was an implied condition of the physician's contract with the defendant that he should sterilize his instruments. As he had broken this contract, he was not entitled to payment for his services. As the defendant had failed to prove that his wife's illness was due to the physician's negligence, he was not entitled to any part of his counter claims. The defendant has appealed from this decision.

Fund for Hall Edwards.

The sad case of Mr. Hall Edwards, the pioneer in the use of the *x*-rays in medicine in Great Britain, has been described in previous letters. Both his hands have been amputated for epithelioma following intractable ulcers due to the *x*-rays. The government has lately granted him a civil list pension of $600 per annum. The profession and some of his fellow-townsmen of Birmingham have raised by subscription a fund of $10,000 for his benefit, which on investment yields $400 a year. He has, therefore, an income of $20 a week. This is insufficient to maintain himself and his wife and provide attendance which he requires night and day. A number of influential bankers and financiers in London are raising another fund consisting of donations and annual subscriptions. Promises amounting to $600 annually have already been received. The donations will be invested in the purchase of a life annuity.

Precautions Against Cholera.

In view of the rapid spread of cholera in Russia the local government board has issued a circular to the sanitary authorities of ports throughout the kingdom with a view of preventing admission of the disease. The health officers are asked to keep themselves informed as to the spread of cholera in Russia and especially as to its continuance in the ports where it now exists and its appearance in other ports. The board will afford assistance in this by issuing from time to time a statement of the progress of the epidemic.

The Coal Smoke Abatement Society.

The ninth annual report of this society shows good work in the attempt to free London from the smoke nuisance. During the year 1907, 1,262 case of smoke pollution observed by the society's inspectors were dealt with, and in nearly all cases were reported to the local authorities. An attempt has been made to induce electric, gas and smokeless fuel companies to combine in establishing a permanent exhibition of apparatus and methods for the abatement of smoke from dwelling houses. In industrial concerns the abatement of the smoke nuisance by mechanical apparatus is found to be generally attended with economical working.

Typhoid from Mussels.

An outbreak of typhoid fever that occurred in Norwich this summer has been traced to mussels obtained from Wells, which were found to contain the bacillus coli in large numbers. At Wells the mussel layings were found to be grossly polluted with the sewage of the town. Prompt measures were adopted. Several bags of mussels brought from Wells were destroyed and circulars were issued warning against the consumption of shellfish. As a result a marked reduction in the number of cases of typhoid fever followed. Outbreaks of typhoid fever have recently been traced in other towns to the same cause. In Yarmouth typhoid fever was epidemic for a series of years until in 1900 the sale of mussels from the Yare was prohibited and the number of cases immediately dropped. At Southend the health officer, Dr. Nash, in 1902 reported that there was some connection between the disease and the consumption of shellfish in at least 82 out of 105 cases of typhoid fever. Measures were taken against polluted shellfish, with the result that the number of the population attacked fell from an average of 2.08 per 1,000 of the population during the years 1899 to 1903 to 0.29 in the years 1904 to 1907—a reduction of over 90 per cent.

The Mortality from Tuberculosis.

The annual report of the Registrar-General for Ireland contains an interesting comparison of the death rates from tuberculosis in the various divisions of the British Isles during the years 1864-1906. In 1864 the death rate in England and Wales was 3.3 per 1,000 of the population; in Scotland, 3.6; and in Ireland, 2.4. During the forty-three years which have elapsed the rate in England and Wales has fallen to 1.6. In Scotland the rate rose to 3.9 in 1870-1871 and subsequently declined to

2.1 in 1905 and 1906. In Ireland the rate, which, as shown above, was lower than in the other counties, in 1864 steadily increased—to 2.9 in 1880, from which it fell to 2.7 in 1905, 1906 and 1907. But the Irish rates are not a completely correct measure of the liability of the race to tuberculosis, for they must be affected by the extensive emigration of the youngest and healthiest part of the population.

PARIS LETTER.

(From Our Regular Correspondent.)

Paris, Sept. 24, 1908.

Depopulation in France.

The word "depopulation" may be understood in an absolute or relative sense; but a nation which is decreasing even only by comparison with its more rapidly increasing neighbors will eventually decrease absolutely. This is the case in France. According to the official census report for 1907, the number of births was 773.969, while the number of deaths was 793.889, making an excess of 19,920 deaths over births. The birth rate has long been steadily declining. Since 1901 the number of births has been less each year than for the preceding year.

For 1902, the decrease was	11.896
For 1903, the decrease was	18.666
For 1904, the decrease was	8.483
For 1905, the decrease was	10.938
For 1906, the decrease was	444
For 1907, the decrease was	32.878

As the mortality has by no means been diminishing at the same rate, the arrival of a time when the birth rate should fall below the death rate was inevitable. The declining birth rate is, indeed, far from peculiar to France; it has been noted in almost all countries of Europe. Only a few weeks ago your Berlin correspondent gave some instructive figures in regard to Germany. The phenomenon is the result of general causes, among which the progressive development of manufacturing industries and of means of communication and the immigration of the rural population to the large cities are conspicuous. It must be admitted, however, that in France the evil is more serious than elsewhere. What are the causes? Some believe that the warfare on religious ideas in France is responsible. The Christian religion has always condemned severely the evil practices which destroy life at its source, and that is why provinces like Brittany, where the religious sentiment has made the best stand, also have the highest birth rate.

Without denying the importance of this factor, however, it must be recognized that there are many other causes inherent in the mode of life and thinking peculiar to France or at least more accentuated in France than elsewhere. Individualism is the basis of the modern French mental makeup. De Foville says bitterly that ambition, vanity, the craving to show off, to enjoy and to possess, are the motives to which our countrymen are constantly yielding more and more. The thirst for prosperity increases with prosperity itself. Every one seeks to enrich himself at all hazards, and children, with all the expenses that they bring, are dreaded. Then, too, many of the French are more ambitious for their descendants than for themselves, and, for the sake of the first-born, they are unwilling that he should have brothers or sisters. Moreover, at school and everywhere else, thrift and economy are inculcated. People are beginning to perceive now that this has been carried too far, for it is for the sake of thrift and economy that the French restrict the size of their families.

These causes have contributed to the success of an abominable propaganda organized under the deceptive name of "leagues of regeneration." These leagues preach the right of abortion and teach young women that they may employ those vile means which, without requiring the privations entailed by the "moral restraint" of Malthus, promise the same results. A news item of recent date indicates the extent of the evil. It states that there has just been arrested at Cambrai, in the north of France, an old man of 76, known as the "Friend of the People," who earned this title by producing several thousand abortions.

LEGISLATION AS A POSSIBLE REMEDY.

Legislative interference might remedy the condition to some extent, especially modifications of the tax laws. Families with several children are now grievously overtaxed, and unfortunately, the income tax bill now under debate makes no discrimination between the bachelor and the father of ten children.

Increase in the Number of Marriages in 1907.

Skeptics refuse to admit that legislation can furnish any remedy for depopulation, but the statistics in regard to marriages testify to the contrary. There were in 1907 more marriages than ever before, a total of 314.908 marriages, 8.221 more than the previous year. This abrupt and considerable increase is due solely to the law of June 21, 1907, simplifying appreciably the formalities of marriage, which are more complicated in France than in any other country. The fact that the increase dates from July, and has continued into 1908, proves that it is the result of the law.

Physicians and the Income Tax.

Medical opinion in France is distinctly hostile to the Caillaux income-tax* bill now under discussion. The well-grounded objections urged against this bill are that it would considerably increase the taxes now incumbent on the members of our profession, and would compel them to violate professional secrecy by making a detailed statement of their receipts. In case of any protest against the assessment it would be necessary for the physician to exhibit his books; and in some cases the nature of the patient's disease might be inferred from the records. Moreover, no one should know the number of times a year that a given individual is obliged to consult a physician.

Another flaw in the bill is the fact that it does not clearly require that professional medical expenses, such as expenses for carriage, for servants employed on professional business, and rent should be deducted from the gross receipts before the tax is assessed.

The Congress of Practitioners has therefore passed a resolution asking for modifications in the bill. M. Caillaux, the Minister of Finance, has received favorably the representations of the representatives of the medical profession, and it may be hoped that the legislative branch will give them consideration.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, Oct. 1, 1908.

Modernization of the Study of Veterinary Medicine.

The conditions under which veterinary medicine has been taught hitherto in this country have been humiliating to the students, for the veterinary college did not rank with the medical college, and the graduates of the former could not gain the degree of doctor, although on the continent veterinary graduates do obtain this degree as a rule. Furthermore, the veterinary college was under military management. Most veterinary surgeons were bound to serve three to five years in the army after graduation. The veterinary students some time ago petitioned the ministry of education to take them in charge instead of the ministry of war. The failure of their hopes finally caused a strike, and it would have been necessary to close the college for lack of students unless a change had been made. Public interest was at last aroused, and a commission of investigation was appointed, which rendered a brief and simple verdict: "The college is not equipped for study or for scientific research." As a result, the college will be granted more space; military control will soon cease; and the veterinary graduate will be entitled to receive the degree of doctor of veterinary science on producing a certificate of graduation from a veterinary college, passing an examination on two subjects of veterinary medicine, and offering a scientific dissertation on any subject in his curriculum. A fee of 180 crowns ($36) is to be paid for the diploma, while the tuition fee for each six months' term has been fixed at 50 crowns ($10). Veterinary bacteriology and pathology will be taught in the medical pathologic institute until the sites for new buildings are obtained. Veterinary science will profit much by this reform, which comes into force this winter.

An Interesting Decision on Criminal Abortion.

The legal decision in the following recent case has been much commented on in medical circles: A girl in the seventh month of pregnancy was suddenly seized with pains, and by the aid of a midwife was delivered of a hydatid mole. The local registrar was not notified. As notification of births is compulsory in this country, both woman were imprisoned on suspicion of criminal abortion when a medical man, who was called in afterward, insisted on notification. The judge's decision was that although the girl had not been delivered of a human being, yet the fact that she had confessedly used some means to procure premature emptying of the uterus, without exact knowledge of its abnormal contents, made her action criminal. The omission to give notification of the delivery itself constituted a breach of the law. The penalty was three weeks of hard labor for each woman; but they were later released, pending the result of a petition for mercy.

Pharmacology

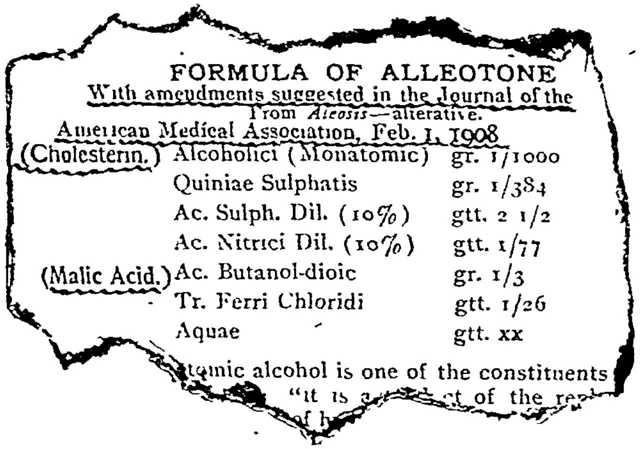
ALLEOTONE.

The Commercial Value of Adverse Criticism.

For skillful attempts to convert a "knock" into a "boost," commend to us the discredited nostrum exploiter. The federal Food and Drugs Act did much to bring out this amiable quality—possibly developed it. While somewhat ancient history, it is well to call to mind what happened when the excise authorities insisted either that the "patent medicine" booze, Peruna have some medicine put in it, or else that its manufacturers should go into the saloon business. Hartman at once got out a new label stating that "for a number of years a multitude of grateful friends" had urged "that Peruna be given a slight laxative quality." Thenceforth the innocents and near innocents could get their perunaese jag only at the risk of a bad quarter of an hour."

One of the latest attempts to wriggle out of an uncomfortable position, and at the same time make capital out of the wriggling is seen in the advertising of Alleotone, a nostrum of the pseudo-scientific type, which was shown up in The Journal of Feb. 1, 1908. The "formula" furnished is for the most part a jargon of misleading and mystifying nonsense and fulfills the same purpose as the voluble "patter" of the gentleman who is manipulating three shells and a pea at the county fair.

Every constituent of the "formula" was discussed in The Journal and the absurdities and impossibilities of each dwelt on. Did the manufacturers of Alleotone feel downcast over the exposure of their humbug? Not to judge by their advertising, for they write to physicians that "since the A. M. A. analyzed Alleotone it has made great strides"—direction not specified. But the choicest piece of impudence, and one that but for its dishonesty would be laughable, is found in this portion of their advertising pamphlet:



FORMULA OF ALLEOTONE
With amendments suggested in the Journal of the
From *Aleosis*—alterative.
American Medical Association, Feb. 1, 1908

(Cholesterin.)	Alcoholici (Monatomic)	gr. 1/1000
	Quiniae Sulphatis	gr. 1/384
	Ac. Sulph. Dil. (10%)	gtt. 2 1/2
	Ac. Nitrici Dil. (10%)	gtt. 1/77
(Malic Acid.)	Ac. Butanol-dioic	gr. 1/3
	Tr. Ferri Chloridi	gtt. 1/26
	Aquae	gtt. xx

tomic alcohol is one of the constituents
"it is a [illegible]ct of the re
of h

In the original, the words "With amendments suggested in the Journal of the American Medical Association, Feb 1, 1908," and also "(Cholesterin.)" and "(Malic Acid.)," which we have underscored in the illustration, are printed in red and have been added to the original "formula." Such are the uses of adversity.

What claim, if any, the exploiter of this nostrum—B. F. Copeland—has to medical or pharmaceutical knowledge, we do not know. In fact, to be consistent with the "ethics" of the nostrum business he need have none. Such knowledge, indeed, tends to hamper that free play of the imagination so necessary in this work. We understand that he has at different times been in charge of a stave factory and connected with a brokerage firm, which may exert some subtle influence in developing the ability to relieve suffering humanity, though the connection is not quite clear. One would imagine, however, that the keen business instinct, untrammeled by any considerations of conscience, which is exhibited in the exploitation of Alleotone, would in purely commercial pursuits have long since assured a competence.

CAPUDINE.

Another of "The Subtle Poisons."

A great many inquiries reach the Association's laboratory regarding various nostrums and "patent medicines" with requests for analyses, but the number of preparations thus brought to notice is so great that it would take an army of chemists to satisfy all inquiries. As it is, only such preparations are examined as will serve as examples of a class of nostrums which it is desired to expose or that are of special interest to the profession. Hicks' Capudine Cure—or as it is known to physicians "Elixir Capu Hicks"—is one of such examples, and its investigation has been deemed advisable.

MANUFACTURERS' CLAIMS

The manufacturers—the Capudine Chemical Company, Raleigh, N. C.—issue two kinds of advertising pamphlets—one for physicians and another for the public. The medical profession is told that Capudine is

> especially recommended for the relief of all headaches, colds, la grippe, neuralgia, sick headache, nervous headache, acidity, flatulency, and indigestion pains, also for dysmenorrhea, after pains, etc."

A formula of the type that usually accompanies preparations of this character is given.

> Elixir Capu is composed of the combined Bromids of Potassium Sodium and Ammonium, Caffein Capu, Elixir Peppermint, Adjuvants and Correctives, Syrup and water, q. s."

To elucidate further and for the information of those who have never heard of the substance capu, we are told:

> Capu is a cellulin *product*—Chemical formula C[illegible]H[illegible]NO$_4$, possessing very powerful analgesic properties and is a mild antipyretic."

In a "Laundry List" pamphlet extolling the virtues of the remedy the public are informed that

> Hicks' Capudine CURES all headaches, indigestion, la *grippe*, colds, etc."
>
> No remedy ever placed before a suffering mortal has the wonderfully quick curative powers of Capudine."
>
> Hicks' Capudine is not a 'dope': will not produce a habit."
>
> Try this splendid remedy and enjoy life once more."
>
> Capudine is a liquid, acts immediately and is sold by dose at soda founts, and in 10, 25 and 50c bottles at drug stores."

LABORATORY FINDINGS.

Capudine (whether in the form of Elixir Capu Hicks or as Hicks' Capudine Cure) is a brown, rather syrupy liquid, slightly alkaline to litmus, with an aromatic odor and a salty taste. Besides 8 per cent. of alcohol, Capudine was found to contain sugar, aromatics, chlorids, caffein, antipyrin and salicylates. Quantitative estimations demonstrated the presence of about 1.25 gm. (19 grains) of antipyrin and caffein to each fluid ounce, and salicylates equivalent to about 0.9 gm. (14 grains) of salicylic acid to each fluid ounce. Thus Capudine depends for its action principally on antipyrin.

COMMENTS

As a barefaced attempt to exploit, at the same time and with the same preparation, both the medical profession and the public this nostrum is probably preeminent in the annals of the "patent medicine" business—a business whose claims to deceit and mendacity are already high. That medical journals should aid and abet such methods would seem unbelievable. Testimonials are forthcoming, of course. In the pamphlet to the laity, these come from the butcher, the baker and the candlestick maker, while in the "literature" to physicians, at least some of the testimonials—"case histories," if you please!—come, it is needless to say, from our old testimonio-maniac friend, W. T. Marrs,[1] M.D., of Peoria Heights, Ill. As Dr. Marrs has recommended, at various stages of his literary career, such remedies as Neurilla, Antikamnia, Bromidia, Chionia, Arsenauro, Cactina Pillets, Thialion, Phenosoptine, Papine, Calcidin and others too numerous to mention, his opinion regarding Capudine must be considered authoritative. Dr. A. S. Reed of Naples, Maine, also details a "case history" in which the marvelous results achieved by the administration of Capudine are surpassed only by the still more marvelous spelling and composition of the testimonial.

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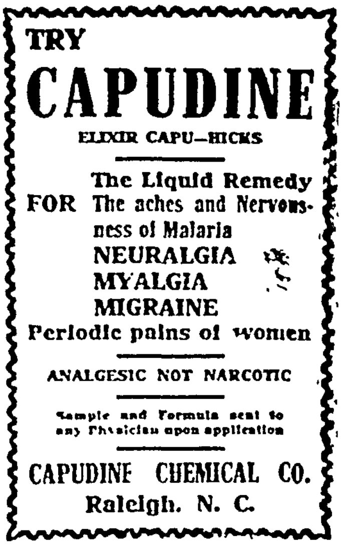
[1] See The Journal, March 14, 1907, p. [illegible].

In the lay press we find Capudine extensively adverstised in the typical "patent medicine" style. In the "Laundry List" pamphlet, previously referred to, which goes direct to the public, there are graphically portrayed some of the conditions in which Capudine is indicated.

For the purpose of determining the attitude of the Capudine Chemical Company regarding its policy of combining the "patent medicine" and "ethical proprietary" business in one and the same preparation, a Chicago physician wrote, asking if it made any particular difference whether he wrote a prescription for Elixir Capu-Hicks or told his patients to go to the drug store and ask for a bottle of Hicks' Capudine Cure.

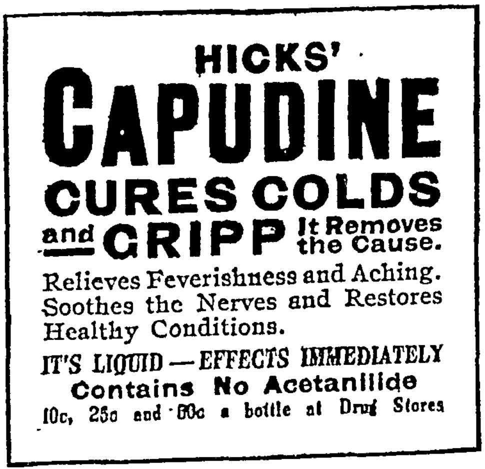


TRY
CAPUDINE
ELIXIR CAPU—HICKS
The Liquid Remedy
FOR The aches and Nervousness of Malaria
NEURALGIA
MYALGIA
MIGRAINE
Periodic pains of women
ANALGESIC NOT NARCOTIC
Sample and Formula sent to any Physician upon application
CAPUDINE CHEMICAL CO.
Raleigh. N. C.

Reproduction (reduced) of an advertisement of Capudine in a medical journal (*Medical Summary*). In this way the physician is reached.

The Capudine Chemical Company rose gracefully to the bait and swallowed it hook and line. The answer, dated Sept. 28, 1908, is so ingenuous and enlightening that we give it almost in full. For the purpose of emphasizing certain passages we have employed italics and small capitals:

> "We use the name Elixir Capu-Hicks so that doctors can write for it and have their prescriptions filled *without the consumer knowing that it is the same thing as the advertised product.* A great many of our doctor friends prefer this.
>
> "In regard to the cost to the druggist it is the same and we presume that MOST DRUGGISTS DISPENSE CAPUDINE BY THE DOSE OVER THE COUNTER AND ELIXIR CAPU-HICKS ON PRESCRIPTION FROM THE SAME ONE-PINT OR ONE-GALLON BOTTLE OF CAPUDINE, WHICH IS PERFECTLY ALL RIGHT. [! !] Though some of our drug friends buy it labeled as Elixir Capu-Hicks specially for their prescription trade."



HICKS'
CAPUDINE
CURES COLDS
and GRIPP It Removes the Cause.
Relieves Feverishness and Aching.
Soothes the Nerves and Restores Healthy Conditions.
IT'S LIQUID—EFFECTS IMMEDIATELY
Contains No Acetanilide
10c, 25c and 50c a bottle at Drug Stores

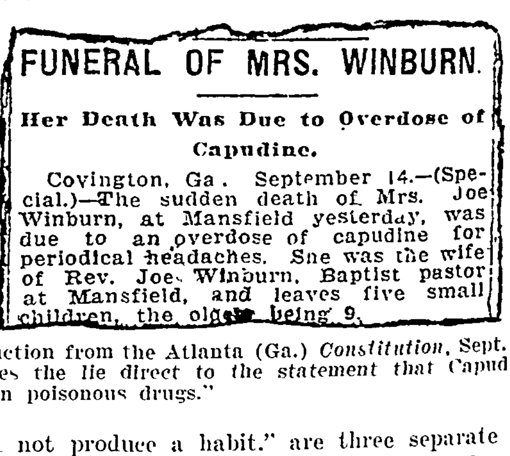
Reproduction of an advertisement to the public appearing in a religious publication, the *Baptist Flag*. This paper, to which we have referred before, expatiates on the need of pure reading—in its editorial pages—and exhibits filthy indecencies—in its advertisements.

"Perfectly all right" indeed! What though you deceive your patient, stultify yourself and use your druggist as a catspaw; just so you increase the sale of Capudine it "is perfectly all right"—for the Capudine Chemical Company.

The formula furnished physicians is, of course, a joke. The various ingredients given—without quantities—are, with the exceptions of Capu, well-known drugs. Capu is not so well known; in fact, its circle of acquaintances is limited to the Capudine Chemical Company. According to the company (and if it doesn't know, who does?) "capu is a cellulin product—chemical formula $C_{18}H_{20}N_3O_4$." This looks abstruse and scientific, and doubtless in many cases prevents further impertinent and awkward questions. The description only lacks one thing to prevent it qualifying for an honored position in the hall of fakes—a "structural formula" of weird and impressive design. The great unknown—Capu—is, of course, as the analysis demonstrates, our old friend antipyrin. On the "literature" furnished physicians and on the advertising distributed to the public, great stress is laid on the fact that Capudine "contains no acetanilid." This puts the nostrum in that dangerous class of "patent medicines," increasingly common of late, in which a heart-depressing drug is present, but one, unfortunately, which the Food and Drugs Act does not require to be specifically named on the label. Mr. Adams in the "Great American Fraud" series says, in speaking of the labels on "patent medicines:" "If the words 'warranted harmless' appear anywhere, look twice over for the Ethiopian in the woodpile." We would say if the words "contains no acetanilid" appear on the label of any "headache cure," it is a safe guess that some other equally dangerous heart-depressant is there in its place. The statements that (1) "Hicks' Capudine is not a 'dope' "; (2) "does not contain . . . poisonous drugs," and (3) "will not produce a habit," are three separate and distinct falsehoods. As to its "harmlessness," a telegram that appeared in the Atlanta (Ga.) *Constitution*, which we reproduce, refutes briefly but tragically, this cruel lie. Dr. E. W. Warren of Palatka, Fla., reports the case of a woman who was thought to have been murdered, but the state's attorney concluded that her death was caused by too much Capudine.

HICKS' CAPUDINE CURES
PERIODIC PAINS.
HEADACHES, BACKACHES, NERVOUS EXHAUSTION which frequently accompany menstruation are quickly relieved by Capudine. Nature certainly

Diagnosis and treatment in the home! Reproduced from the "Laundry List" pamphlet sent out to the public.



FUNERAL OF MRS. WINBURN.

Her Death Was Due to Overdose of Capudine.

Covington, Ga. September 14.—(Special.)—The sudden death of Mrs. Joe Winburn, at Mansfield yesterday, was due to an overdose of capudine for periodical headaches. She was the wife of Rev. Joe Winburn, Baptist pastor at Mansfield, and leaves five small children, the oldest being 9.

Reproduction from the Atlanta (Ga.) *Constitution*, Sept. 15, 1908, which gives *the lie direct to the statement that Capudine "does not contain poisonous drugs."*

And this hybrid " 'patent medicine'-proprietary" is to be found advertised in medical journals! How much longer will the medical profession put up with it?

Proprietary House Insolvent—and Physicians Lose?

The Pas Avena Chemical Company, whose product, Pas Avena, was exposed in THE JOURNAL a few months ago, has recently failed, according to our pharmaceutical exchanges. In recording the fact, one journal says:

> "It is reported that considerable stock of this company had been sold to physicians."

At this time, when physicians are importuned daily to invest money in various wildcat pharmaceutical concerns, this sentence might well be used "to point a moral or adorn a tale."

Correspondence

Plague in Ground Squirrels.

SAN FRANCISCO, Oct. 6, 1908.

To the Editor:—I have just seen the editorial in THE JOURNAL, Oct. 3, 1908, on "The Present Pandemic of Plague," in which you refer to my work in establishing the existence of plague in the ground squirrel.

I would call attention to the fact that in the issue of Public Health Reports referred to (Sept. 11, 1908), the following statement is to be found after the reference to my own report on a plague-infected ground squirrel: "Practically the same findings have been obtained by Acting Assistant Surgeon Wherry in the Oakland laboratory, and are reported under date of Aug. 24, 1908."

Under a wise order of Passed Assistant-Surgeon Blue, who commands all antiplague operations in this vicinity, all cases of suspected plague in persons or in rodents are investigated by two bacteriologists. Acting under this order Acting Assistant-Surgeon W. B. Wherry and myself, working independently, demonstrated the presence of the plague bacillus in all the squirrels that have been proven to be infected. Proper credit for this work should be given to Dr. Wherry, who, as shown by the Public Health Reports, made his report on the subject on Aug. 24, 1908, three days earlier than my own report, which was dated Aug. 27, 1908.

GEORGE W. MCCOY, P. A. Surgeon.
401 Fillmore Street.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

HYPODERMIC USE OF MERCURY IN TUBERCULOSIS.

ALLIANCE, Neb., Sept. 3, 1908.

To the Editor:—Please give me information relative to the hypodermic use of mercury in tuberculosis.

What preparation of mercury would give the best results?

C. E. SLAGLE.

ANSWER.—This method has been advocated by Dr. B. L. Wright, U. S. Navy. In a recent article (*U. S. Naval Medical Bulletin*, July, 1908), he gives the following description of the technic:

"The preparation of mercury used is hydrargyrum succinimidum. Just before the injections are to be given distilled water is boiled for at least twenty minutes. A solution is then made so that 0.64 c.c. (min. x) will be equivalent to gram 0.013 (1/5 gr.) of mercury succinimide. The syringes and needles are boiled for twenty minutes.

"The skin of the patient's buttocks is scrubbed with hot water and tincture of green soap, then washed with alcohol, followed by ether, and this in turn by a solution of bichlorid of mercury (1 to 3,000). The surgeon's hands are prepared as for any operation, and sterilized rubber gloves are worn. The patient being in a prone position on the table, the needle is driven deeply into muscle tissue by a quick downward plunge. If no blood escapes from the butt of the needle the syringe is put in place and the drug is injected. If blood escapes a vein has been punctured and the needle is therefore withdrawn and inserted at another place.

"It has been our custom to start with gram 0.013 (1/5 gr.) of the drug, and to repeat the injection every other day until 15 injections have been given; then to give gram 0.026 (2/5 gr.) every fourth day until fifteen more injections have been administered; then to give gram 0.039 (3/5 gr.) once a week indefinitely. It is advantageous in some cases to give short courses of potassium iodid at varying intervals in conjunction with the mercury.

"The above procedure can not be considered a hard-and-fast rule of routine, for some cases require larger doses and some smaller, and in this the physician must be guided by experience and close observation."

In a later article Wright says (*New York Medical Journal*, August 29, 1908):

"Since the publication of my second report we have modified the procedure for the administration of mercury as follows: We now give an injection every other day until thirty injections have been given, then follow by a two weeks' course of potassium iodid, grammes 0.64 (10 grains) thrice a day, then one week's rest from medication, after which we resume the injection and repeat. This is giving us the most satisfactory results."

Good results are reported by Wright, but the method must be regarded as still on trial.

PRESCRIPTION LATIN.

KENTUCKY, Oct. 2, 1908.

To the Editor:—The following prescription is copied from "Ortner's Treatment of Internal Diseases" (Page 30.):

R.	gm.	
Hydrarg. chloridi mitis	|20	gr. iii
Sacchar. lactis	|40	gr. vi

Dent. tal. dos. No. ix-xii.
M. Fiat. Pulv. No. i.
Sig.: Three powders daily.

Please give the Latin in full of the words "Dent. tal. dos." and the translation in English.

B. D.

ANSWER.—The abbreviated Latin words stand for *dentur tales doses numero novem—duodecim*, and mean, "Let there be given similar doses in number 9 to 12;" in other words, the druggist is instructed to send from 9 to 12 powders such as the one for which the prescription is written. This formula is, we believe, more common among German than English-speaking physicians. The latter are more prone to write simply "mitte ix-xii, i.e., "Send from nine to twelve (such powders)".

BEEF PICKLE.

——, ILL., Oct. 9, 1908.

To the Editor:—I am asked about a recipe for pickle for beef, which is as follows: To 1 gallon of water add 1½ pounds of salt, ½ pound of sugar, 6 ounces of saltpeter and ¼ pound of potash. Please tell me what kind of potash should be used. Could I use caustic potash?

J. W. H.

ANSWER.—The kind of potash intended in the recipe is probably potassium carbonate, which possibly might be used on the meat without danger if it were well washed out before the meat was eaten. Caustic potash in the amount named would make a mixture of about the strength of the liquor potassii hydroxidi and would be poisonous. We do not see the reason for the addition of "potash" in this recipe and consider it objectionable.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, for the week ended Oct. 10, 1908:

Hoff, John Van R., colonel, Med. Corps, relieved from duty in the Philippines Division Dec. 3, 1908, and ordered to proceed to San Francisco for further orders.

Stephenson, William, and Phillips, John L., majors, Med. Corps, having completed their examination for promotion at Washington, D. C., ordered to return to their proper stations.

Mabee, James I., captain, Med. Corps, granted an extension of two months to his leave of absence.

Havard, Valery, colonel, and Lynch, Charles, major, Med. Corps, detailed to represent the medical department of the Army at the meeting of the Association of Military Surgeons, at Atlanta, Ga., Oct. 13 to 16, 1908.

Kean, Jefferson R., major, Med. Corps, detailed to represent the medical department of the Army at the meeting of the Association of Military Surgeons, at Atlanta, Ga., Oct. 13 to 16, 1908, and on completion of that duty to rejoin his station in Cuba, he having completed the duty for which he was ordered to the United States.

Snyder, Craig R., captain, Med. Corps, granted leave of absence for one month.

Harris, Jesse R., captain, Med. Department, granted an extension of twelve days to his leave of absence.

Dutcher, Basil H., major, Med. Corps, ordered to duty at Plattsburg Barracks, N. Y., at the expiration of his present leave of absence.

Freeman, Paul L., captain, Med. Corps, granted leave of absence for ten days.

Ford, Clyde S., captain, Med. Corps, relieved from duty in the Philippines Division June 15, 1909, and ordered to the United States; ganted six months leave of absence about Dec. 15, 1908, with permission to go beyond the sea.

Schier, Anton R., first lieutenant, Med. Res. Corps, honorably discharged from the service of the United States.

Slayter, John T. H., first lieutenant, Med. Res. Corps, ordered to proceed from Fort William Henry Harrison, Montana, to his home, Cambridge, Mass., and await orders.

Burney, Fred M., first lieutenant, Med. Res. Corps, ordered from Fort Myer, Va., to Fort McHenry, Md., for temporary duty.

Bayley Edmund W., first lieutenant, Med. Res. Corps, granted leave of absence for one month.

Foley, Thomas M., first lieutenant, Med. Res. Corps, assigned to active duty and ordered to Fort Moultrie, S. C., for duty.

Bowman, Madison M., first lieutenant, and Patterson, Edwin W., first lieutenant Med. Res. Corps, relieved from duty in the Philippines Division and ordered to the United States for station.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending, Oct. 10, 1908:

Pollard, J. B., Dodge, A. H., Cottle, G. F., Mann, W. L., asst.-surgeons, appointed assist.-surgeons from Oct. 3, 1908; ordered to course of instruction at the Naval Medical School, Washington, D. C.

de Figaniere, P. A., acting asst.-surgeon, appointed acting asst.-surgeon from Oct. 3, 1908; ordered to course of instruction at the Naval Medical School, Washington, D. C.

Freeman, G. F., surgeon, commissioned surgeon from Aug. 2, 1908.

Murphy, J. A., surgeon, ordered to the *Franklin*.

Snyder, J. J., surgeon, unexpired portion of leave revoked, detached from the *Franklin and ordered* to the Marine Recruiting Station, Philadelphia.

Farwell, W. G., passed asst.-surgeon, detached from the Marine Recruiting Station, Philadelphia, and ordered to duty at the Naval Hospital, Philadelphia.

(Orders issued by Commander, Third Squadron, Pacific Fleet.)

Smith, H. L., asst.-surgeon, detached from the *Missouri* and ordered to the *Villalobos*.

Higgins, M. E., asst.-surgeon, detached from the *Illinois* and ordered to the Naval Hospital, Canacao, P. I.

Koltes, F. X., asst.-surgeon, detached from the *Connecticut* and ordered to the *Wilmington*.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 7, 1908:

White, J. H., surgeon, detailed to represent the service at the meeting of the Southern Medical Association at Atlanta, Georgia, Nov. 10-12, 1908.

Carrington, P. M., surgeon, directed to report at the Bureau on special temporary duty, Oct. 3, 1908. Relieved from special temporary duty at Washington, D. C., Oct. 6, 1908. Detailed to represent the service at the Association of Military Surgeons at Atlanta, Ga., Oct. 13-16, 1908. Granted six days' leave of absence while en route to join station.

Wertenbaker, C. P., surgeon, detailed to represent the service at the Association of Military Surgeons at Atlanta, Ga., Oct. 13-16, 1908. Granted seven days' leave of absence from Oct. 5, 1908.

White, M. J., passed asst.-surgeon, detailed to represent the service at the Association of Military Surgeons at Atlanta, Ga., Oct. 13-16, 1908.

Bryan, W. M., asst.-surgeon, granted thirty days' leave of absence from Nov. 1, 1908.

Blanchard, J. F., acting asst.-surgeon, granted two days' leave of absence, from Oct. 7, 1908, under Paragraph 210, Service Regulations.

Earl F. D., acting asst.-surgeon, granted seven days' leave of absence from Oct. 7, 1908, and excused without pay for two days, from Oct. 14, 1908.

Goldsborough, B. W., acting asst.-surgeon, leave of absence for five days granted Sept. 16, 1908, amended to read three days.

Lewis, F. S., acting asst.-surgeon, granted six weeks' leave of absence from Sept. 20, 1908.

Marsillan, C. J., acting asst.-surgeon, granted thirty days' extension of annual leave, from July 21, 1908, on account of sickness, and twenty-five days' leave from Aug. 20, 1908.

Ridlon, J. R., acting asst.-surgeon, directed to proceed to Stapleton, N. Y., for duty, reporting to commanding officer Marine Hospital.

Walker, R. T., acting asst.-surgeon, granted four days' leave of absence, from Oct. 26, 1908, under Paragraph 210, Service Regulations.

Wetmore, W. O., acting asst.-surgeon, granted three days' leave of absence, from Sept. 10, 1908, under Paragraph 210, Service Regulations.

APPOINTMENT.

Doctor J. R. Ridlon appointed an acting asst.-surgeon, for duty at Stapleton, New York, Sept. 30, 1908.

BOARDS CONVENED.

Board of medical officers convened to meet at the Marine Hospital, Chicago, Oct. 7, 1908, for the purpose of making a physical examination of an applicant for the position of cadet in the revenue cutter service: Surgeon G. B. Young, chairman; Asst.-Surgeon C. E. Wood, recorder.

Board of medical officers convened to meet at the Marine Hospital, Savannah, Ga., Oct. 7, 1908, for the purpose of making a physical examination of an applicant for the position of cadet in the revenue cutter service: Surgeon F. W. Mead, chairman; Acting Asst.-Surgeon A. B. Cleborne, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 9, 1908:

SMALLPOX—UNITED STATES.

California: Berkeley, Sept. 12-19, 1 case.

Indiana: Indianapolis, Sept. 13-20, 1 case; Lafayette, Sept. 14-21, 1 case; South Bend, Sept. 19-26, 1 case.

Kansas: Topeka, Sept. 12-19, 1 case.

New York: New York, Sept. 19-26, 1 death.

Ohio: Cincinnati, Sept. 18-25, 1 case.

Tennessee: Nashville, Sept. 19-26, 1 case.

Washington: Spokane, Sept. 5-19, 2 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 8-22, 12 cases, 6 deaths.

SMALLPOX—FOREIGN.

Aden: Aden, Aug. 24-31, 5 deaths.

Brazil: Rio de Janeiro, Aug. 15-23, 751 cases, 36 deaths; Santos, Aug. 15-22, 16 cases, 3 deaths.

Canada: Halifax, Sept. 12-19, 1 case.

Ceylon: Colombo, Aug. 8-15, 3 cases, 1 death.

Ecuador: Guayaquil, Aug. 15-29, 9 deaths.

Egypt: Cairo, Aug. 25-Sept. 2, 3 cases, 1 death.

India: Bombay, Aug. 18-25, 4 deaths; Calcutta, Aug. 8-15, 6 deaths.

Italy: General, Sept. 6-13, 5 cases; Naples, Sept. 13-20, 5 cases, 1 death; Piscinola, 11 cases, 1 death.

Mexico: Aguascalientes, Aug. 13-20, 1 case; Mexico City, July 25-Aug. 8, 21 deaths.

Norway: Christiania, Aug. 29-Sept. 5, 24 cases, 2 deaths.

Peru: Callao, Sept. 8, 30 cases.

Russia: Warsaw, July 25-Aug. 8, 14 deaths.

Turkey: Bagdad, Aug. 22-29, 22 cases, 6 deaths; Constantinople, Aug. 30-Sept. 6, 8 deaths.

YELLOW FEVER.

Brazil: Manaos, Aug. 22-29, 1 death; Para, Sept. 5-12, 1 death.

Ecuador: Guayaquil, Aug. 16-22, 1 death.

Mexico: Vera Cruz, Oct. 2-7, 5 cases.

Martinique: Fort de France, Sept. 5-12, 5 cases, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 8-22, 10 cases, 10 deaths; provinces, Aug. 8-22, 1,729 cases, 1,186 deaths.

CHOLERA—FOREIGN.

China: Hankau, to Aug. 18, 1,397 cases, 1,397 deaths; Hanyang, to Aug. 18, 200 deaths; Hongkong, Aug. 15-22, 3 cases, 3 deaths; Shanghai, Sept. 1, present; Wuchang, to Aug. 18, 2,140 deaths.

India: Bombay, Aug. 18-25, 1 death; Calcutta, Aug. 8-15, 13 deaths; Madras, Aug. 15-21, 79 deaths.

Indo-China: Colen, Aug. 8-15, 4 cases, 4 deaths.

Japan: Moji, Sept. 4, 8 cases, 3 deaths.

Russia: St. Petersburg, to Sept. 19, 2,018 cases, 620 deaths.

PLAGUE.

Azores: Fayal, to Sept. 21, 9 cases, 4 deaths; Terceira, to Sept. 21, 51 cases, 20 deaths.

Brazil: Rio de Janeiro, Aug. 16-23, 1 case.

Chile: Iquiqua, Sept. 1-8, 4 cases, 3 deaths.

China: Hongkong, Aug. 15-22, 3 cases, 23 deaths; (20 deaths, April to July, in Chinese hospital not previously reported).

Ecuador: Guayaquil, Aug. 22-29, 1 death.

India: General, Aug. 15-22, 1,578 cases, 1,015 deaths; Bombay, Aug. 18-25, 26 deaths; Calcutta, Aug. 8-15, 14 deaths; Rangoon, Aug. 8-15, 35 deaths.

Indo-China: Cholen, Aug. 8-15, 13 cases, 13 deaths; Aalgon, Aug. 8-15, 4 cases, 4 deaths.

Japan: Awaji Island, Sept. 7, 7 cases, 3 deaths; Kobe, Aug. 29; Sept. 5, 4 cases, 1 death.

Peru: General, Aug. 25-31, 22 cases, 9 deaths; Callao, Aug. 25-Sept. 2, 1 case; Lima, Aug. 25-Sept. 2, 4 cases.

Trinidad: Sept. 30, 1 case, 1 death.

Turkey in Asia: Bagdad, Aug. 22-29, 1 case, 1 death.

Note.—Plague at Trieste, Austria, September 21, denied.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Illinois State Board of Health, Great Northern Hotel, Chicago, October 21-23. Secretary, Dr. J. A. Egan, Springfield.

Indiana Board of Medical Registration and Examination, Room 120, State House, Indianapolis, October 27. Secretary, Dr. W. T. Gott, Room 120, State House, Indianapolis.

Nevada State Board of Medical Examiners, Carson City, November 2. Secretary, Dr. S. L. Lee, Carson City.

Louisiana Homeopathic Medical Board, 919 St. Charles street, New Orleans, November 2. Secretary, Dr. Gayle Aiken, 1102 St. Charles avenue, New Orleans.

Nebraska State Board of Health, Capitol Bldg., Lincoln, November 4-5. Secretary, Dr. E. J. C. Sward, Oakland.

Texas State Board of Medical Examiners, Houston, November 10. Secretary, Dr. M. E. Daniel, Honey Grove.

Connecticut Homeopathic Medical Board, New Haven, November 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand avenue, New Haven.

Connecticut Eclectic Medical Board, Hotel Garde, New Haven, November 10. Secretary, Dr. T. S. Dodge, Torrington.

Connecticut State Medical Examining Board, City Hall, New Haven, November 10-11. Secretary, Dr. Charles A. Tuttle, 196 York street, New Haven.

Maine Board of Registration of Medicine, Preble House, Portland, November 10-11. Secretary, Dr. William J. Maybury, Saco.

Florida Regular Board of Medical Examiners, Jacksonville, November 11-12. Dr. J. D. Fernandez, Jacksonville.

West Virginia State Board of Health, Wheeling, November 10-12. Secretary, Dr. H. A. Barbee, Point Pleasant.

Missouri State Board of Health, Kansas City, November 23-25. Secretary, Dr. J. A. B. Adcock, Warrensburg.

Massachusetts Board of Registration in Medicine, State House, Boston, November 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

The Texas Examining Boards.

Waco, Texas, Oct. 5, 1908.

To the Editor:—My attention has just been called to the following statement in Texas news, on page 699 of The Journal, February 29: "It is claimed that many irregularities have been discovered on the part of the old boards of examiners operating under the law of 1901."

Again, April 11, on page 1901, the following appears: "Sale of Medical Certificates.—J. J. Davis, special agent of the state medical board, is said to have filed a complaint against a Denison physician, the charge growing out of the disposition of certificates from the old medical board which was in existence prior to July 12, 1907, when the present medical act went into effect. Large numbers of these certificates, which had been ordered to be destroyed, were, it is said, sold to persons who desired to practice medicine, bringing prices ranging from $50 to $500."

The Texas legislature in 1901 enacted a law creating three separate boards of medical examiners, to-wit: The State Board of Medical Examiners (regular), the Homeopathic State Board of Medical Examiners, and the Eclectic State Board of Medical Examiners. This act was repealed by the thirtieth legislature, which created a single board, this law going into effect July 13, 1907.

In justice to the State Board of Medical Examiners (regular), mentioned above, acting under the law of 1901, I desire to state that there is nothing in the records of this office showing that the conduct of that board has been the least reprehensible.

G. B. Foscue, M.D.

Reciprocity Regulations in Louisiana.

In accordance with the recent amendment to the medical practice act providing for reciprocity, the Louisiana State Board of Medical Examiners held a meeting Tuesday, September 29, and adopted the following resolutions:

"On and after Oct. 1, 1908, the Louisiana State Board of Medical Examiners will grant a license, without examination, to applicants who will comply with the following conditions:

"1. They must appear in person before the board.

"2. They must present a diploma from a college rated as Class A by this board (i. e., medical colleges rated between 70 and 100 per cent. by the Council on Medical Education of the American Medical Association).

"3. They must present a certificate of examination by and from a state board of medical examiners recognized by the Louisiana State Board of Medical Examiners.

"4. They must furnish satisfactory proof of their identity.

"5. They must give satisfactory evidence of good moral character.

"6. They must pay a fee of $25.

"Applicants possessing a diploma from a medical college rated Class B by this board (i. e., medical colleges rated between 50 and 70 per cent. by the Council on Medical Education of the American Medical Association), in order to obtain a license to practice medicine in this state, must comply with the following conditions:

"1. They must furnish satisfactory proof of their identity.

"2. They must give satisfactory evidence of good moral character.

"3. They must present in person their diploma.

"4. They must pay the examination fee ($11).

"5. They must pass a satisfactory examination."

The Louisiana State Board of Medical Examiners recognizes at present certificates issued by the following state boards: Colorado, Connecticut, Delaware, District of Columbia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Michigan, Minnesota, Missouri, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Dakota, Ohio, South Carolina, Texas, Utah, Vermont, Virginia, Wisconsin.

Marriages

Wilbur Lucas, M.D., to Miss Edith Mae Johnson, both of Pueblo, Colo., October 7.

Arthur H. Cohn, M.D., to Miss Hattye B. Saxe, both of Milwaukee, September 23.

John Aimone, M.D., Granville, Ill., to Miss Della Stringfellow of Chicago, recently.

Frank W. Vincent, M.D., to Miss Frances G. Knox, both of Cleveland, September 24.

George Rosenbaum, M.D., to Miss Rebecca Belber, both of Philadelphia, September 23.

Jesse Oliver Purvis, M.D., to Miss Louise Sommers, both of Annapolis, Md., September 21.

Morton G. Watson, M.D., Louisa, Ky., to Miss Inez Wall of Huntington, Ky., September 30.

Archibald Anand Atkinson, M.D., Dorris, Cal., to Miss Clara I. Irwin of Aurora, Ore., recently.

Edward Cummings, M.D., Hinton, W. Va., to Miss Marie Louise Whiting of Knoxville, Tenn., October 1.

William Andrew Wallace, M.D., Spartanburg, S. C., to Miss Ada Beardsley of Manson, N. C., September 30.

Deaths

Josiah Forrest Kennedy, M.D. New York University, 1858; a member of the American Medical Association; for seven years secretary of the State Medical Society; and for several years secretary of the Polk County Medical Society; of Des Moines, Iowa; for twenty-two years secretary of the Iowa State Board of Health and of the Iowa State Board of Medical Examiners; vice-president of the Conference of State and Provincial Boards of Health of North America; editor of the *Iowa Health Bulletin;* an acknowledged authority on hygiene and sanitary science; county physician of Polk County from 1876 to 1883; professor of obstetrics in the State University of Iowa in 1869 and 1870; and United States pension examining surgeon; who went to the Pacific Coast last year on account of his health; died in Los Angeles, September 26, from abscess of the liver, aged 74.

John Alexis Tonner, M.D. University of Pennsylvania, 1866; of Brooklyn, N. Y.; appointed a medical cadet in the United States Army in 1865; and later an assistant surgeon in the U. S. Army for five years; then chief medical officer in the immigrant service; and afterward for a year in the service of Brazil; a veteran of the Spanish-American War; died from cerebral hemorrhage in Kings County Hospital, Brooklyn, N. Y., August 30.

Hugo W. Bartscher, M.D. Washington University, St. Louis, 1881; a member of the Missouri State Medical Association; one of the founders and first president of the North St. Louis Medical Society; chairman of the United Pure Food Commission of Missouri; and formerly professor of histology and bacteriology in Beaumont Hospital Medical College; died at his home in St. Louis, September 28, from cerebral hemorrhage, aged 49.

Charles Miller Swartz, M.D. University of the South, Sewanee, Tenn., 1900; Michigan College of Medicine and Surgery, Detroit, 1903; a member of the Colorado State Medical Society; and secretary of the Pueblo County Medical Society; oculist to the St. Mary's and Pueblo hospitals, the Clark Sanitarium and the McClellan Orphanage Home, Pueblo; died at his home October 3, from spinal meningitis, aged 31.

James Albert Berry, M.D. McGill University, Montreal, 1887; of Topeka, Kan.; a member of the American Medical Association; a member of the medical staff of the Stormont and Christ hospitals, Topeka; from 1893 to 1895 division surgeon for the Great Northern Railway; died suddenly on the golf links of the London, Ont., Hunt Club, September 26, from heart disease, aged 47.

Walter Thomas Clark, M.D. Harvard Medical School, 1890; of Worcester, Mass.; a member of the Massachusetts Medical Society; formerly chairman of the local board of health and city physician; associate medical examiner for Worcester County and visiting physician to Worcester City Hospital; died in the Maine General Hospital, Portland, September 23, from heart disease, aged 46.

Carl M. Sears, M.D. Baltimore Medical College, 1904; a member of the Kentucky State Medical Association; who was seriously burned by the explosion of a gasoline water heater at his home in Paducah, September 26; died September 30, while being taken in an ambulance from Riverside Hospital, Paducah, to the home of his father in Mechanicsburg, aged 26.

David Fox Hummel, M.D. Medico-Chirurgical College of Philadelphia, 1902; of Gilberton, Pa.; a member of the Medical Society of the State of Pennsylvania; for three years resident physician of the Ashland (Pa.) Miner's Hospital; died at the home of his sister in Shenandoah, September 28, five days after an operation for appendicitis, aged 35.

John Harrison Rodgers, M.D. University of Pennsylvania, 1856; a member of the Ohio State Medical Association; surgeon of the Forty-fourth and later of the One Hundred and

Fourth Ohio Volunteer Infantry, during the Civil War; for several years a member of the board of health of Springfield, Ohio; died at his home, September 28, aged 75.

Thomas Turner, M.D. University of Virginia, 1850; surgeon on the staff of General "Stonewall" Jackson; and afterward brigade surgeon in the Confederate service during the Civil War; coroner of Frederick County from 1880 to 1900, and for 20 years a justice of the peace of Frederick, Md.; died at his home in that city, September 26, aged 75.

John Hood Owings, M.D. University of Maryland, Baltimore, 1861; of Livingston, Mont.; a member of the Montana State Medical Association; for many years a practitioner of Deer Lodge, Mont.; died in St. Paul, Minn., September 26, while on his way home from Rochester, Minn., where he had undergone operation, aged 66.

Hiram E. Zimmerman, M.D. Eclectic Medical Institute, Cincinnati, 1854; of Mount Jackson, Pa.; a member of the Medical Society of the State of Pennsylvania; said to have been the oldest practitioner of Lawrence County; died in the Shenango Valley Hospital, New Castle, October 3, from kidney disease, aged 77.

Harry M. Rodgers, M.D. College of Physicians and Surgeons, Baltimore, 1884; a member of the Medical Society of Virginia; a member of the Virginia House of Delegates for six years; and a popular practitioner of Rockingham County, Va.; died at his home in Mount Crawford, October 3, from nephritis, aged 48.

Frank W. Gordon, M.D. Hahnemann Medical College, Chicago, 1866; of Sterling, Ill., and for four years health officer of that city; acting assistant surgeon, U. S. Army, during the last year of the Civil War; died in the Augustana Hospital, Chicago, October 1, a week after a surgical operation, aged 71.

John W. N. Vogt, M.D. Columbus Medical College, 1876; of Delaware, Ohio; some-time coroner of Delaware County; a member of the board of health and of the board of United States pension examining surgeons; died at the Jane M. Case Hospital, Delaware, October 4, from heart disease, aged 56.

Thomas Croswell, M.D. Bowdoin College, Brunswick, Maine, 1838; said to have been the oldest living graduate of the institution; an honorary member of the North Central Illinois Medical Association; died at the home of his daughter in Streator, Ill., October 6, aged 93.

Frank Madden, M.D. Long Island College Hospital, 1879; a member of the American Medical Association; of Plattsburg, N. Y.; a veteran of the Civil War; and a retired officer of the United States Army; died at the home of his son in New York City, October 3, aged 62.

Beverly Oliver Kinnear, M.D. University of Pennsylvania, 1870; a member of the Medical Society of the State of New York; for 11 years a member of the medical staff of Clifton Springs (N. Y.) Sanitarium; died at that institution, September 29, aged 60.

John J. Blair, M.D. California Medical College, San Francisco, 1878; of Cincinnati; died October 5 in the Cincinnati City Hospital, from the effects of cyanid of potassium, supposed to have been taken with suicidal intent, aged 61.

James Anderson, M.D. University of Michigan, 1876; New York University, 1877; a member of the American Medical Association; died suddenly at his home in Salem, Ohio, October 1, from angina pectoris, aged 57.

S. Neumann, M.D., one of the leading physicians of Berlin, Germany, died September 29, aged 89. He served as a member of the Berlin city council from 1859 to 1905, and was a prolific writer on questions involving statistics, hygiene and sociology.

Medical Economics

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

An Object Lesson.

The Clark County Medical Society gave a demonstration of postgraduate work before the Kentucky State Medical Association at its recent meeting at Winchester. The exhibition was given at the opera house in the evening before a large popular audience, and was so interesting as to elicit round after round of applause for what would ordinarily be considered a dry subject. Drs. Stephenson and Bush demonstrated the gross anatomy of the skull and brain and Dr. Clark the physiology of the brain. The demonstration was so complete and practical and brought out so much inquiry from representatives from counties where this work has not yet been taken up as to give much promise for its extension in the state.

Third Month.

FIRST WEEKLY MEETING.

1. DISEASES DUE TO PROTOZOA.

A. MALARIAL FEVERS.

MOSQUITOES IN MALARIAL FEVERS.

Genus Anopheles.—Differentiate from stegomyia and culex: colors, palpi, proboscis, resting position. Time of biting, weak fliers, hibernation, distribution in United States. Different species: *A. maculipennis, A. punctipennis, A. crucians, A. argyritarsis*, etc. Life history: Eggs, number and location, hatch in 3 or 4 days; larva, shape, structure, feeding stage 16 to 20 days; pupal stage, 3 to 10 days; effect of cold weather. Destruction of mosquitoes, abolish breeding places, gutters, barrels, pools, marshes, etc., drainage, oiling ponds, stocking ponds with fish.

THE MALARIAL PARASITES.

Historical account, work of American observers.

Classification (Schaudinn). — Order, Protozoa, sub-order, Hemosporidia; varieties, Plasmodium vivax (tertian), *Plasmodium malariæ* (quartan), *Plasmodium immaculatum, præcox* or *falciparum* (*estivo-autumnal parasite*).

I. The Parasite in Man.—(a) Plasmodium vivax (tertian fever). Form, size, shape, changes during cycle, amœboid movements, pigment, segmentation. (b) Plasmodium malariæ (quartan fever). Differs from plasmodium vivax. (c) Plasmodium falciparum (estivo-autumnal fever). Differentiate from each of others.

II. The Parasite within the Body of the Mosquito.—Gametocytes from man, flagellation and fecundation in stomach of mosquito, in muscular coat develops zygotes, which rupture freeing sporozoids, these through salivary glands into man when bitten; sporozoids develop parasites in blood of man; sexual and asexual cycles; duration of cycle, 14 days.

Contributing Etiology.—Distribution in the United States, Seasons and climate, time of day, altitude, soil, rain and moisture, race, age and sex.

CLINICAL FORMS OF MALARIAL FEVERS.

I. Regularly Intermittent Fevers.—(a) Tertian fever; prodromal symptoms, cold stage, hot stage, sweating stage. Recurrence. Double tertian infection, quotidian paroxysms. (b) Quartan fever; symptoms of each stage. Infection with two or three groups.

II. Irregular, Remittent or Continued Fevers.—(a) Estivo-autumnal fever; variations in onset, types of fever, facies, tongue, spleen, jaundice, blood examination. (b) Pernicious Malarial Fevers. (1) Comatose form; sudden onset, chill, fever, mental symptoms, recurrence of chill. (2) Algid form; gastric symptoms, prostration, pulse, temperature, diarrhea, urine, course and terminations. (3) Hemorrhagic forms, hemoglobinuric fever, black-water fever, hemoglobinuria; distribution in United States, frequency, parasites present, effect of quinin.

III. Malarial Cachexia.—Follows repeated attacks; anemia, dyspnea on exertion, edema, hemorrhages; variable temperature, enlarged spleen. Course and terminations.

REFERENCE BOOKS FOR THE THIRD MONTH.

Osler: Practice of Medicine.
Osler: Modern Medicine. Vol. I.
Braun: The Animal Parasites of Man.
Langfeld: Infectious and Parasitic Diseases.
Clarke: Protozoa and Disease.
Mott: Sleeping Sickness.

Society Proceedings

COMING MEETINGS.

Vermont State Medical Society, Rutland, Oct. 22-23.
Medical Society of Virginia, Richmond, Oct. 20-23.

KENTUCKY STATE MEDICAL ASSOCIATION.

Fifty-third Annual Session, held at Winchester, Sept. 23-25, 1908.

The President, Dr. D. M. Griffith, Owensboro, in the Chair.

Rev. O. C. Chandler, Winchester, offered prayer. An address of welcome was delivered by Hon. Judge J. M. Benton, which was responded to by Dr. Joseph M. Mathews, Louisville, after which the president-elect, Dr. John C. Cecil, Louisville, was installed.

Preparation of Patient for Normal Labor.

Dr. S. L. Beard, Shelbyville: The physician so seldom has the opportunity to see the patient before labor begins that it is difficult to say how to prepare her. Diseases of pregnancy should receive attention, and among them albuminuria, the explanation for which is that the blood vessels supplying the kidneys are subjected to pressure from the gravid uterus, causing a congestion of the venous circulation of the kidney. This is the cause of the frequency of albuminuria. The woman soon to be confined should have proper diet, which should be nutritious, avoiding pastries and sweets. Exercise should be moderate. She should have plenty of fresh air in the sleeping room. The dress should be loose-fitting, so as not to interfere with the progress of the labor. The obstetrician must have such articles as he may require to complete the labor. There are certain antiseptic precautions which should be practiced in modern obstetrics, and first and foremost the medical attendant should be clean, both as to clothing and hands. I never give a vaginal douche before labor begins, for I think that it will remove the natural secretions which, if left alone, will serve to lubricate the soft parts, facilitating the passage of the head through the outlet.

Puerperal Eclampsia.

Dr. J. M. Peck, Arlington: For want of a better theory I would accept the one that puerperal convulsions are the result of a toxemia which depends for its origin on the placenta, and most probably from the outermost fetal layer of the placenta. Zweifel claims that lactic aciduria is either responsible for or associated with this condition. In every case of pregnancy in which the blood or urinary test reveals the presence of lactic acid and convulsions supervene I advise emptying the uterus at once. Prophylaxis offers better results to the mother and vastly better to the offspring than anything one might be able to do after the onset of the convulsions. Chloroform is a very potent remedy for immediate or temporary relief. *Morphin* is a powerful agent used hypodermically for quick relief, but its use is open to the serious objection of its tendency *to check all the* eliminative processes of the body, when at this time there is special need that these processes be stimulated. Veratrum viride has many warm advocates, and is in *many* instances a valuable remedy. Chloral is a remedy whose utility must not be overlooked. Venesection will afford temporary *relief from* convulsions. Although some able men oppose it as a useless and unscientific treatment, yet it has a host of ardent supporters, and to me its use appears entirely logical.

Management of Occipito-Posterior Position.

Dr. H. B. Ritter, Louisville: If the posterior position is recognized before the beginning of labor, the postural treatment is aided by external manipulation *for its* correction. This may be effective and convert the posterior into a normal anterior position at the very outset. If the position is occipito-posterior when the labor begins, the object should be *to* maintain or restore flexion while the head molds, so that the biparietal diameter, which is resisted by the *promontory* of the sacrum at one end and by the pectineal eminence at the other end, may enter the superior strait. The forceps in delay at the superior strait is not recommended, on account of the danger and difficulty attending this operation. At times, one is forced to use forceps here when other operations are contraindicated. The postural treatment to be effective must be resorted to while the factors in rotation are active, and before they have been exhausted by prolonged labor.

Cesarean Section.

Dr. A. H. Barkley, Lexington: This operation is demanded in any case in which there is such disproportion between the parturient canal and child or vice versa or when there exists an obstruction due to a growth, either malignant or benign, either of the mother or child, that delivery per vias naturales is impossible. There are three conditions, any one of which carries with it the possibility of the performance of Cesarean section. They are contracted pelvis, eclampsia and placenta prævia. In eclampsia the mortality still remains high, and when one turns to the statistics of cases treated by Cesarean section I am all the more impressed that there still remains room for improvement. On close analysis of these statistics it is found that in only the very worst cases have the patients been subjected to this operation, and under these conditions the fetal mortality has been somewhat reduced and that of the mother raised. The mortality of placenta prævia when treated by version or Cesarean section up to a few years ago was about the same, but as so much has been written since that time about the low mortality accompanying early operation it has been reduced materially. There will always be a certain class of cases in which craniotomy will be indicated, but, aside from this class, which is constantly growing smaller, Cesarean section should be the operation of choice. Symphyseotomy is an operation that is about obsolete and is now seldom performed.

Discussion of Symposium on Obstetrics.

Dr. Edward Spydell: In spite of the multiplicity of remedies mentioned, there are practically but two remedies in treatment of eclampsia—venesection and veratrum viride. The advocates of venesection claim that by removing a definite amount of blood from the patient's body we remove a definite amount of poison. The circulating medium is at once restored to its former measure by the introduction of normal salt solution. Delivery can be effected and elimination can be pursued in the next two days, and there is no danger of the return of the convulsions. I had the fortune or misfortune *to* have a case of eclampsia only two weeks ago, and in *that case* veratrum viride was tried, and both the mother and child are alive. In cases of rigid cervix I would prefer vaginal *Cesarean* section, and I believe consent to it can be more readily obtained from the family than permission to do an abdominal *Cesarean* section.

Dr. Frank Lapsley, Paris: I advocate in every case the use of *ergot* after labor, and not before the *expulsion of the* secundines. I have seen but one case of postpartum convulsions, and I have always felt that those cases were more serious than antepartum convulsions. I doubt very much the wisdom of using the tampon when the os is not thoroughly dilated in a case of antepartum hemorrhage. In such cases the sooner one can empty the uterus the better.

Dr. J. G. Carpenter, Stanford: The patient should be under the watchful care of a competent physician from the inception of pregnancy until labor is concluded, the puerperal state passed, and the woman restored to a physiologic condition. I have used blood-letting frequently, with the best results. The postpartum convulsions have continued for three weeks or more, due to the condition of the blood and the nephritis present, which was due to the mechanical obstruction and pressure. Cesarean section should always *be an* operation of election.

Dr. C. Z. Aud, Cecilian: It is the duty of every practitioner to obtain the best trained nurses possible. I *try* to teach women who are going to attend to my obstetric cases to wash the women and babies, but first to pay attention to their own hands. Sepsis must find a means to *enter the* economy, and in abscess of the breast the infection has often found its point of entrance through the nipple. The nipples should be cleansed immediately after the child nurses, and anointed before being allowed to dry, because *the moment the* nipple dries it may crack, as some cuticles do. After the birth of the child I practice systematic massage of the uterus, so as to expel everything that the uterus contains.

Dr. L. H. South, Bowling Green: Venesection is worse than useless in the treatment of eclampsia if we do not empty the uterus, because toxins are still being manufactured. As to the use of veratrum viride, no physician who is called to see a case of carbolic acid poisoning would expect to relieve it by keeping the poison in the capillaries; neither would he expect to relieve eclampsia. One has to treat the original source, and that is in the placenta. This is shown by recent investigation; consequently the most rational treatment of eclampsia is first prevention and then elimination. Forceps should never be considered when Cesarean section is indicated. One should never use ergot unless there is therapeutic indication for it. It is one of the most useless drugs, yet one of the most dangerous when given for a long time.

Dr. William H. Wathen, Louisville: Craniotomy on the living child should not be tolerated, and I have advocated this since my entrance into professional life. Spiritually, the child is on the same plane as the mother, and I claim that no one has a right to kill the child when other means can be resorted to to save it, as well as the life of the mother. Cesarean section is not difficult, and can be performed successfully in nearly every case if done in time, thereby saving the life of the child and the life of the mother.

Dr. I. A. Shirley, Winchester: Craniotomy should never be done on the living child. Physicians are not competent to do a Cesarean section unless they are surrounded by the proper conditions and circumstances. The country doctor is compelled to deliver a woman sometimes by craniotomy, or let both the child and the mother die, and I purpose to do craniotomy as best I can and save the mother rather than to let both the mother and the child die.

Dr. W. W. Anderson, Newport: In nine cases out of ten when delivery has been accomplished completely there is no therapeutic indication for the use of ergot.

Dr. D. O. Hancock, Henderson: I regard puerperal eclampsia as one of the terminal affections of a faulty metabolism and a lack of function on the part of the liver. Other terminal affections are nephritis, peritonitis, pericarditis, edema of the brain, and general inflammations affecting the kidney. The liver is the organ of elimination and is the standardizer of the blood in eliminating toxic products from the system. If the eclampsia is caused by extension of the poison to the brain, and there is a cerebral edema, with the intense headache, that usually anticipates puerperal convulsions, then the treatment would perhaps be spinal puncture. The treatment of puerperal eclampsia, however, is the treatment of this condition in the system, and the treatment with chloral and veratrum viride, etc., are treatments of symptoms.

Dr. Alexander Skaggs, Morehead: Is it thought advisable to render every woman sterile when Cesarean section has been necessitated?

Dr. J. R. Morrison, Louisville: What we have accomplished lately in obstetrics has been more along the line of prevention and hygiene. In this way we are doing a great deal of good. If every practitioner understands his patient, if he will keep up the elimination and the well-being of the patient, and not allow her to lapse into a state of toxemia, he will have accomplished a great amount of good. Rest in a pregnant woman is as important as anything else. If urea is present in too large a quantity, it shows that the kidney is being overworked. An examination for indican is important. In a number of samples of urine which I have examined from women who have had puerperal eclampsia, I have found that a large amount of indican has been present. If we have taken the proper care of our patient, we will know whether Cesarean section is necessary or probable, and if one is likely to be compelled to do the operation I see no excuse in letting the patient go until the third day.

Dr. J. M. Peck: In regard to the objection raised by Dr. South to venesection, unless we empty the uterus and remove the placenta, we take it for granted that we are not going to stop as soon as we have bled the patient, but are going to ep up the process of elimination. Recently I had a patient who was attacked with puerperal convulsions at the eighth month, and she had either five or six of them. I bled her early, instituted eliminative treatment, carried her to term, and delivered her of a healthy child. The mother and child both did well. Prophylaxis offers better results to the child and mother than anything else we can do. It is our duty, and we are remiss in it if we do not educate the people to report pregnancy to the physician they expect to attend them as soon as it has taken place.

Dr. A. H. Barkley: I wish to emphasize the importance of an early operation. The mortality is practically nil, and the outcome depends on recognizing the condition. Not all cases, however, lead to Cesarean section. I would not do craniotomy because Cesarean section is a safe operation with the living child, and with a dead child it is still safer.

(To be continued.)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Twenty-first Annual Meeting, held at Baltimore.
Sept. 22-24, 1908.

(Continued from page 1175.)

Hysteria as a Surgeon Sees It.

Dr. Ap Morgan Vance, Louisville, related a number of interesting clinical instances of hysteria simulating grave organic lesions:

Many methods of cure owe their value to the power of suggestion and an attitude of command as the controlling elements in vanquishing the obsession of the victims. Alertness is necessary to avoid mistakes in diagnosis, and I attribute my success in diagnosis and treatment of some of these cases to that alertness which is bred of the rivalry in diagnosis which came within my experience early in my medical career.

DISCUSSION.

Dr. Herman E. Hayd, Buffalo: I desire to emphasize the difficulty attending a correct diagnosis in cases of hysteria. Everyone has seen patients who have been sadly neglected, and who have been treated for all kinds of hysterical symptoms, when there was really not only one but various pathologic conditions at the bottom of the trouble, making the case extremely complex. The reason, therefore, why so many of these neurasthenic, hysteric and neurotic women are not cured is not because they have not received good surgery, but because they have not had enough good surgery.

Dr. Charles G. Cumston, Boston: I have found that the quickest way to make hysterical patients who think they have hip joint disease walk is to mention in their presence that high amputation is the proper thing. In one case the patient was able to walk in a short time after this suggestion. A woman was supposed to have had hip joint disease, this diagnosis having been made by an orthopedic surgeon, but pelvic examination disclosed hydrosalpinx, and on its removal the hip-joint symptoms disappeared.

Dr. John A. Lyons, Chicago: I do not agree with Dr. Hayd that there is always marked pathology in these hysteric patients, and support the views advanced by the author of the paper. In many instances the hysteria can be relieved by suggestion.

Dr. Roland E. Skeel, Cleveland: The welfare of the medical profession and of patients depends on recognizing the fact that while there may be a minor pathologic condition, it is only recognized by the patient by reason of over-excitable and over-sensitive nerves, and is overlooked by the physician. These minor pathologic conditions can be found if they are sought for, but inasmuch as there is no perfect human body, even if the condition be removed it would only cure a limited number of patients.

Comparative Merits of Abdominal Celiotomy and Colpotomy for Intrapelvic Abscess.

Dr. W. S. Smith, Baltimore: If one considers the improvements that have been made in surgical technic, together with the striking results obtained in pus cases by the Fowler postural treatment and the Murphy irrigation, the mortality plea loses much of its significance and force. My recent experience in this connection has been instructive and satisfactory. In the last 110 laparotomies which I have done, there has been no mortality. Of this number, 53 were performed for intrapelvic pus. Drainage was indicated and used in 10 instances, and the Fowler-Murphy treatment was resorted to in 2. During the same period of time there has been but 10 colpotomies, and 2 of these were followed by the abdominal operation.

DISCUSSION.

Dr. Charles L. Bonifield, Cincinnati: Vaginal incision is of great importance in selected cases, and the earlier one can get at pus behind the uterus and drain it, the less damage will be done to the uterine appendages, and the more hope there is of curing these patients without a radical operation. Under the most favorable circumstances it is the exception rather than the rule that these patients are cured by this simple procedure. To deal with these cases by the vaginal route if the temperature has become normal, and the patient is in a condition to withstand radical operation, is to attack the disease in an awkward and inefficient way. The mortality from operations for pus in the pelvis depends very greatly on when the operation is done. One should avoid abdominal section for the removal of suppurating appendages while the patient has elevation of temperature. I have almost completely given up conservative surgery in cases of inflammatory disease of the appendages. Conservative surgery as regards the tubes is more frequently successful than that with regard to the ovaries. In cases in which I have left part of an ovary, the patients have usually returned for a subsequent operation.

Dr. Albert Goldspohn, Chicago: Vaginal drainage is permissible in acute pelvic conditions, and the cases amenable to this operation are those in which the focus of pus is localized in the pelvic cellular tissue. When the primary focus of inflammation is not intraperitoneal or intratubal, but is in the pelvic cellular tissue, great relief is afforded or even a cure sometimes effected by vaginal incision and drainage. Intraperitoneal suppurative conditions are not usually much benefited by vaginal incision and drainage, but more radical measures are needed.

Dr. C. C. Frederick, Buffalo: In pelvic abscess I prefer the vaginal route for drainage, and then, if necessary, a more radical operation can be done at a later time.

Dr. Frederick Blume, Pittsburg: I have resorted to vaginal incision and drainage in the class of cases under discussion, and later, if the patients return, I perform an abdominal operation. When the uterus is veritably riddled with small abscesses, even though one removes the uterus, the patient is usually so generally infected that operation is likely to be followed by an unfavorable result.

Dr. Joseph A. Hall, Cincinnati: Many pelvic abscesses are the result of tuberculosis, and many are caused by the gonococcus. Vaginal incision and drainage accomplishes much good in some cases, but in others more radical procedures are indicated.

Dr. Louis Frank, Louisville: There can be no question as to the advisabilityof vaginal incision and drainage in acute pus collections as a temporary expedient. My experience, however, is that in some cases in which it is done abdominal section is required later. In one case which I recall there was a pus collection between the bladder and uterus in which the fever continued unduly high after vaginal colpotomy. Cases of infection of the tubes and broad ligament which do not subside after opening the abscesses would yield only to extirpation of the tube and the removal of the broad ligament.

Dr. Jos. P. Branham, Baltimore: In some cases the degree of virulence is slight, while in others it is great, and on account of this difference the treatment should vary in different cases.

Dr. W. S. Smith: I have not been convinced of the importance of removing a healthy tube, even though the infection is of gonorrheal origin. I think that a thorough curettement of the uterus and careful exsection of the diseased tube will result in a permanent cure, and that there is seldom any necessity for taking out a healthy tube even in gonorrhea.

To Prevent Leaving a Sponge in the Abdomen.

Dr. H. S. Crossen, St. Louis: Security against this fatal accident is counted one of the unsolved problems of abdominal surgery. Practically all authorities state that there is no guarantee against its occurrence, even in routine hospital work, and with all the rules of cooperation and the cumbersome apparatus devised to prevent it. The failure of the preventive methods in general use is due to their dependence on sustained attention concerning the sponges, which attention can not be given by the operator, it being required elsewhere. A method to be effective under all circumstances must be practically automatic, must be applicable in emergency work in the country as well as in hospital work, and should be fairly convenient. The method I have used during the past two years insures the removal of all gauze without particular attention on the part of anyone. It consists in the elimination of all detached pads and sponges and the utilization of ten-yard gauze strips, each strip packed in a convenient bag in such a way that it may be drawn out a little at a time, as needed.

Mobility of the Patient After Laparotomy.

Dr. Walter B. Chase, Brooklyn, N. Y.: The early dictum of the rigid immobility of the patient after laparotomy is wrong in principle and injurious in practice. Limited mobility of the patient, active or passive, within rational limitations, is admissible and desirable whenever the comfort and advantage of the patient are thereby promoted. The cardinal prerequisites to prompt healing of wounds are perfect coaptation, perfect rest, and freedom from infection. The sitting up of the patient in bed or out of bed the day after the operation, being around the ward the following day, and leaving the hospital for ordinary exercise at the end of a week, is not compatible with sound surgical principles, even though in individual instances satisfactory recovery has followed. By ignoring the pathologic conditions present, the burden of proof, that the phlebitis is not due to infection, or that the mischief attending thrombosis and embolism is not a result of too early mobility of the patient, rests with the advocates of the new departure.

DISCUSSION.

Dr. Albert Goldspohn, Chicago: It is wrong to encourage patients to get up on the second or third day after laparotomy, as it is necessary to wait until cicatrization is fairly complete, and this does not occur in less than about ten days.

Dr. Daniel H. Craig, Boston: The mobility of a patient after operation has a relationship to the postoperative complications of phlebitis and thrombosis, and I believe that early mobility of patients lessens the liability to these complications.

Extrauterine Pregnancy.

Dr. Herman E. Hayd, Buffalo, N. Y.: I shall classify the cases I report according to their clinical manifestations: First, the tragic or cataclysmic class, in which there is free hemorrhage going on into the peritoneal cavity, with no tendency to localization. Here an immediate abdominal operation is recommended. Second, the cases in which a small rupture has taken place and in which hematocele more or less circumscribed develops. In this class I advise vaginal incision and drainage if the pregnancy is not advanced beyond six weeks, or if the blood clot has not become too firmly organized. Third, those patients who have gone on to the second, and to the fourth or fifth month, when rupture takes place, but the fetal product continues to grow on account of the new attachment it makes. Fourth, those patients who have gone on to the development of a pelvic abscess with broken-down fetal products in the mass. Fifth, those cases in which the patients have gone on to term and have been delivered by operation when the child is viable, or in which the child has died and undergone mummification or calcification as a lithopedion.

Advanced Ectopic Gestation, with Living Child, with Report of Three Cases.

Dr. X. O. Werder, Pittsburg: All these cases began as tubal pregnancy. The time of rupture can be estimated f-the history of every case. In the first case it occurred at about the end of the second month: in the second it apparently occurred unusually late, about the middle of the fourth month, and in the third case severe cramps about six weeks after the last menstrual period indicated that rupture took place at that time, although the complication with normal pregnancy and a subsequent abortion caused the symptoms to be rather mixed and consequently less definite than in the previous cases. In none of the cases was the diagnosis attended with great difficulty. In the advanced form of extrauterine pregnancy the only other condition with which it may be confounded is normal uterine pregnancy. Mistakes in diagnosis are less likely to occur than in the earlier forms of ectopic gestation, although even the latter cases are not usually difficult to recognize.

Having in the prophylactic instrumental compression of the abdominal aorta a safe and reliable means of preventing the so much dreaded placental hemorrhage, which has really been *the principal stumbling-block in the surgical treatment* of advanced ectopic gestation, there seems to be no longer any just ground for other than radical operation in this condition, consisting in the complete extirpation of the gestation sac with living placenta, an operation which in my opinion is the only proper and correct surgical procedure for these cases.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-eighth Annual Session, held at Cambridge Springs, Sept. 14-17, 1908.

The President, Dr. William L. Estes, South Bethlehem, in the Chair.

(Continued from page 1271.)

Acute Mastoiditis.

Dr. S. McCuen Smith, Philadelphia: I desire to emphasize the importance of mastoid involvement and to urge the adoption of prompt surgical measures. In the majority of cases the tympanic cavity is the site of the initial lesion, and early recognition and prompt treatment of the primary middle-ear inflammation will prevent many cases of mastoid involvement. Prophylaxis is of the first importance, and the most urgent prophylactic measure in acute tympanic disease, especially when complicating the infectious diseases, is early and free incision of the membrana tympani.

DISCUSSION.

Dr. Robert Milligan, Pittsburg: Especially in children, one should not wait for the classical symptoms to develop before operating, as by so doing one would lose the majority of the cases. In children, one symptom that is practically always present is the bulging of the exterior auditory canal. Indeed, when complicated by pneumonia, measles, etc., this is often the only symptom present.

Dr. T. J. Elterich, Pittsburg: Middle-ear disease is a frequent complication of almost any disease of infancy or childhood. I have found about 75 per cent. of still-born infants with pus in the middle ear.

Dr. S. McCuen Smith plead for more routine examination of the ear in cases in which the diagnosis is not definite.

Intracranial Complications of Otitic Origin.

Dr. Ewing W. Day, Pittsburg, having met with a slight accident, his paper was read by Dr. George C. Johnston, Pittsburg.

The subject is divided into meningitis, brain abscess and sinus thrombosis. Each of these, if caused by either of the other two, has characteristics that therapeutically are well defined. The prognosis in meningitis is unfavorable.

DISCUSSION.

Dr. Theodore Diller, Pittsburg: It is a great waste of time to attempt to make a differential diagnosis among these three conditions; because, for the relief of any of them, a prompt operation is called for. As an additional aid to diagnosis, the etiology is a feature of importance; pus coming from the ear means at least the possibility of meningitis or abscess.

Dr. Alfred Gordon, Philadelphia: The relation between otology and neurology is being recognized as intimate. There are cases representing during life symptoms of cerebellar abscess in which nothing is found at autopsy.

Diseases of the Ear from a Medical Standpoint.

Dr. William H. Cameron, Pittsburg: There is particular necessity for operating in otitis media and mastoiditis, especially where children are concerned. Routine examinations are important and cases should be tabulated, in order to ascertain the percentage of ear complications.

DISCUSSION.

Dr. S. McCuen Smith, Philadelphia: Many ear specialists have been trying for a number of years to impart to the general profession a proper conception of the importance of these ear diseases.

Dr. G. R. S. Corson, Pottsville: Dr. Smith has struck the keynote in the remark just quoted; otologists can not reach the minds of many general practitioners because they do not attend the county or state society meetings, and I doubt whether they read the medical journals.

Epithelioma of the Lower Lid, with Successful Transplantation from the Arm.

Dr. George B. Jobson, Jr., Franklin, gave the history of the case, which is briefly as follows:

The patient, aged 66, had an epitheliomatous ulcer, the size of a pea, on the margin of the lower right lid. It had been curetted and cauterized twice, with no improvement. He was treated with the electric cautery, with the same result. The ulcer was excised and the wound closed by a plastic operation. The wound apparently healed, but the ulcer returned in a month. I removed the entire lower lid and grafted a piece of the arm. The result has been perfect up to the present time.

DISCUSSION.

Dr. Edward Stieren, Pittsburg: Better results are usually obtained from skingrafting than from the pedicle transplantation operation, but the former is open to the objection that the line of union is usually well defined, the graft being of a different color from the surrounding skin. In my experience, when union by first intention is expected, I found the use of vaselin defeats the object, a dry dressing being preferable.

Dr. William Campbell Posey, Philadelphia: One should try to get along without operation, if possible, in such cases: in one case absolute healing was obtained by the use of potassium chlorate. I prefer the pedicle-flap operation to skingrafting; a ciliary border obtained by a pedicle-flap operation rapidly takes on an epithelial character. I prefer an oleaginous dressing, covering the parts with bichlorid solution and have seen only the happiest results follow this method of treatment.

Dr. E. B. Heckel, Pittsburg: The operation of grafting should not be hurried; time should be taken to control the hemorrhage absolutely. In my opinion, vaseline should be used in all but the first dressing, as it prevents drying and the tendency to wrinkling of the skin.

Dr. Jobson: The principal objection to pedicle flaps has been the shrinking. By Bediner's modification of the Denonviller operation this shrinkage has been overcome.

An Ophthalmological Phase of the Dangers of Consanguineous Marriages.

Drs. William Campbell Posey and Albert C. Sautter, Philadelphia: There are positive ophthalmologic evidence of the dangers of consanguineous marriages. Deafmutism, insanity, idiocy, epilepsy and retinitis pigmentosa, generally attributed to consanguinity, are strongly hereditary. Danger does not cease with the creation of these diseases. Marriages between relations and to the subjects of retinitis pigmentosa should be prohibited. It is desirable that the profession should be of one mind in the position that it assumes in regard to the matter of consanguineous marriages

DISCUSSION.

Dr Charles K Mills, Philadelphia: I believe that consanguineous marriages are productive of eye afflictions, but also of insanity, idiocy, and certain varieties of these. My experience, however, *is rather in favor of the old view that the* tendency to disease depends on an imperfect strain in the forebears of those who marry. On the whole, I think it best that cousins should not marry each other. Statistics of institutions show that few of those suffering from idiocy have been the children of marriages of consanguinity.

Dr Wendell Reber, Philadelphia: Men engaged in ophthalmologic work are more likely than other practitioners, except alienists, to meet with this problem. Laws would accomplish little, as people will cover up such things in the family history. Retinitis pigmentosa might be an instance of reversion to the lower type, since a similar condition exists in animals

Dr M V. Ball, Warren: The same reasons that would prevent marriages between cousins would render marriages among their descendants unwise. I have recently seen three or four cases of retinitis pigmentosa in which I could trace no inheritance at all.

Dr Edward Stieren, Pittsburg, asked whether there is a law in Pennsylvania prohibiting the marriage of first cousins.

Dr. W. C. Posey: I made an investigation and found that modern medical students have received practically no teaching on the subject of consanguineous marriages. The textbooks on neurology should contain information on this point.

Dr E. B. Heckel, Pittsburg: The Pennsylvania Legislature prohibited marriages between cousins four years ago.

Trachoma and the Public Weal.

Dr Clarence E. Franklin, Philadelphia, wrote this paper, which, in his absence, was read by Dr. Lewis H. Taylor of Wilkes Barre Trachoma is a disease with no present cure, the result being invariable damage to the eye. It is generally unrecognized in medical clinics Usually found in foreign-born patients, trachoma is of vast importance in its relation to health and the ability to earn a livelihood. In view of the vigorous exclusion of these cases from the United States at quarantine, it is the duty of the medical man to aid in the detection of trachoma within our borders

DISCUSSION.

Dr W. C Posey, Philadelphia: While our government is doing all it can to keep this disease out of the United States, the medical profession is not doing all it can to cure this disease within our commonwealth

Dr Lewis H Taylor, Wilkes Barre: It would be well to have a committee appointed to search out such diseases, but every practitioner is not able to diagnose a case of trachoma. The state took the matter up some years ago.

Dr E B Heckel, Pittsburg, described the manner in which such cases are investigated and treated in Pittsburg.

Dr Wendell Reber, Philadelphia: I consider that though there are fewer cases of trachoma now than fifteen years ago, they should be isolated

Dr Edward Stieren, Pittsburg: Merely reporting cases would not prevent the spread of the disease, and no measures are taken to prevent others from acquiring it. The plan of having children afflicted with trachoma placed in isolation hospitals and kept for one or more years is ideal

Beginning Signs of Retinal Angiosclerosis.

Dr Wendell Reber Philadelphia: Diseases in the retinal vessels are not often recognized in their early stages Ophthalmic combined with general therapy is important and there is need of the most thorough going general clinical work in this *connection* Beginning angiosclerosis may be related to various dyscrasias *and* I advise the use of pilocarpin in treatment of such cases.

Gross Obstructive Diseases in the Retinal Vessels.

Dr. Clarence M. Harris, Johnstown, described the ophthalmoscopic appearances and the visual fields, and quoted the pathologic findings in certain cases, emphasizing prophylaxis as being more important than the usually ineffective after treatment. The histories of the six cases were given.

Discussion on Retinal Diseases.

Dr E B. Heckel, Pittsburg: Calomel usually relieves so-called "blind headaches," and I therefore think them due to a species of autointoxication. I tried nitrite of amyl in one case, with good temporary effect.

Dr. W. Reber, Philadelphia: It is significant that of the three great end organs that contain end arteries, the eye is the only one that affords an opportunity of studying the circulation at first hand. More attention should be paid to the stage of "cork screw artery"—the early stage, usually overlooked, in which so much can be done for the patient

Dr. C. M. Harris, Johnstown: I have often observed the *tortuosity of the vessels* As a rule, *I* have found the circulation to be sluggish

Dr. E. B. Heckel, Pittsburg: A small pupil is a sign of general arteriosclerosis.

Society Ownership of Papers Presented Before It.

Dr. Oscar H. Allis, Philadelphia, related that, on request, he sent to each of two medical journals a manuscript copy of his paper to be read before the American Surgical Association. He notified neither one that it was not to have exclusive publication rights. On learning these facts later, the *publishers* of one of the journals referred to wrote to Dr. Allis *that they* had accepted the paper in accordance with their invariable rule, printed in every issue—the rule common among medical journals—namely, that articles are accepted for publication as *original* only when offered to that journal exclusively. This firm, therefore, presented a bill for the expense of typesetting, etc, to which it had unnecessarily been put. The author deplored the alleged commercialism of some publishing houses. The medical society itself is the sole proprietor of all papers read at its session. The few medical journals which uphold noble standards are known to the medical society, *and to* each of these full proceedings should be sent. Dr. Allis feels that there could be no greater test of the excellence of a contribution than would be shown by its simultaneous appearance in all the high grade medical journals, and no sterner rebuke to the low and mercenary character of many of our American medical journals, than the refusal of a county, state or national society to permit them to publish any part of its proceedings No part of the proceedings of a medical society should appear in any medical journal other *than* its *own* unless accompanied with the words "published by *permission*" of the society before which it was read.

(To be continued.)

INTERNATIONAL CONFERENCE ON TUBERCULOSIS.

Seventh Annual Session, held at Philadelphia, Sept. 23-26, 1908.

(Concluded from page 1269.)

Tuberculosis and Legal Rights.

Dr Samuel G Dixon, Philadelphia: While the power of the state is ample to enact health regulations, the enforcement of these regulations is extremely difficult. It should always be possible to enforce health regulations in a summary *manner*, though, at the same time, they should be as little vexatious as possible. Regulations to prevent the spread of tuberculosis will be more difficult to enforce than those relating to other infectious diseases. The legal rights *of the* people are comprised in the word '*protection*": and this means protection of life, health and property. While *life and health* should take the first place, this is too often given *to property*. There are a hundred laws *for* the protection of *property to one for* the protection of life and health. The legal rights *of* the people are: First, to know where the organisms exist *which* are responsible for the spread of disease. Second, to know, when, where *and* by whom, their dead, of whatever disease, are buried. Third to require *transportation* companies to refrain from carrying the body of a *person dead of tuberculosis* without an authoritative permit. Fourth, all persons moving should require from the owners of their new residence a clean bill of health. Fifth, they should demand that all public laundries sterilize clothing. Sixth, all public buildings should be supplied with cuspidors containing disinfectants. Seventh, all washable clothing in sleeping cars and public places should be disinfected. Eighth, the people have a right to demand pure food. Ninth, all sufferers from consumption should protect their fellow citizens. Tenth, tuberculous children should be excluded from schools. Eleventh, the people have a right to require that clothing offered them for sale should be free from all contagion. Twelfth, the people have a right to demand stricter limitation on the sale of alcoholic beverages. Thirteenth, public utilities as telephones, drinking cups, pencils, penholders, cuspidors, should be cleaned and disinfected daily. In conclusion two points of attack are open, neither of which must be neglected: First, the destruction of the tubercle bacillus itself; second, the building up of the resisting powers of the individual by the supply of proper and legally inspected food.

Antituberculosis Education.

Dr. Livingston Farrand, *New York:* The responsibility for the protection of communities against tuberculosis must center in the local authorities. Antituberculosis sanatoria are increasing in the United States, 123 having been opened in the last twelve months. We should approach the question of tuberculosis by two avenues: Education of the general public and enactment of efficient legislation. To accomplish either of these ends organization is necessary, whether it be rejuvenation of an established society or the formation of a new one would depend largely on the conditions as they exist in a given community.

Compulsory Study of Hygiene by Teachers.

Dr. G. A. Heron, London: The study of elementary hygiene by teachers and by children in the higher school grades should be made compulsory. Some one should be appointed to interest the governments of the various countries represented at the conference in this object.

Antituberculosis Education in the Schools.

Dr. L. Calmette, Lille, France: In order to obtain decisive results, it is necessary to demand the introduction of antituberculosis education in the schools of all grades, in the army and navy, in the trades unions and other societies of workmen, sick-fund associations and professional groups of every kind, in the families, in towns and country, by means of lectures, profuse notices and public kinematographic projections, and, finally, throughout the nation by means of laws, making notification of cases of tuberculosis compulsory, both for the heads of the families and physicians, by the obligation of periodical disinfection during the course of the disease and after death, by the interdiction to send consumptive soldiers back to their homes, without previous education and notification and by the control of immigration.

Antituberculosis Education.

An abstract of this paper by Dr. Martin Kirchner, Berlin, was read by Dr. Pannwitz.

The conviction that tuberculosis is a contagious disease must be propagated among the people by every possible means. It is of the greatest importance to demonstrate that the contagion can be brought on not only by close contact with a tuberculous person, but also by the wearing of infected clothes; by the use of articles of a tuberculous patient by a healthy person, and by the occupation of rooms formerly inhabited by a tuberculous individual. Attention must be called to the fact that the resisting force of the body against tuberculosis contagion is increased by cleanliness of the body and of living rooms, by good nutrition, baths and physical exercise. Antituberculosis instruction should be given to all those who are going to be professional teachers, and must, therefore, be given in all preparatory and other establishments for the training of teachers for elementary schools, as well as of those for higher schools and universities. Attention must be paid in all schools and teaching institutions to physical exercises, gymnastics, swimming and games.

Discussion on Antituberculosis Education.

Dr. D. L. Detre, Budapest: In 1907, the government of Hungary gave a free course of lectures on tuberculosis to the school teachers and has since distributed many thousand pamphlets on preventive methods.

Dr. Theodore Altschul, Prague: The compulsory study of hygiene has been introduced in the gymnasia and high schools of Austria and Bohemia.

New Methods of Early Diagnosis of Tuberculosis.

Dr. A. Calmette, of Lille, *France:* Clinicians and investigators should direct their efforts toward increasing the number and effectiveness of the means of information about the disease. Persons with latent inherited lesions are extremely liable to subsequent reinfection, but successive reinfections apparently increase the resistance of tuberculosis subjects, because the disease progresses more slowly. Every reinfection, however, diminishes the resisting power of the organism according to the intensity of the attack. The presence of Koch's bacillus can not be regarded as an early sign of tuberculosis; therefore, clinical means of examinations should be cultivated and perfected. Among the clinical signs which should be sought for are: instability of temperature, symmetry of the respiratory movement, pretuberculous albuminuria of Teissier, the albuminosuria of Ott, blister test of Roge and Josue, Robin and Binet's test of measuring the gaseous interchanges, Ehrlich's diazo reaction, pneumography after Hirtz and Brouardel, and radioscopy and radiography. The agglutination test of Arloing and Courmont must also be considered, but tuberculin is the most reliable, particularly the skin method instituted by von Pirquet, of Vienna, and the ocular tuberculin reaction instituted by Wolff-Eissner and myself in May and June, 1907. The latter is positive in at least 93 per cent. of all cases diagnosed clinicallly and it will show that 10 to 15 per cent. of all persons supposed to be perfectly healthy have tuberculous lesions.

Reports on the Progress of the Antituberculosis Movement in the Various Countries.

In response to the call of the chairman, reports were read by Dr. L. Hamel, for Germany; Dr. Livingston Farrand, for the United States; Dr. Herman von Schrotter, for Austria; Dr. J. F. Heymans, for Belgium; Dr. H. Roerdam, for Denmark; Dr. Landouzy, for France; Dr. C. Theodore Williams, for Great Britain; Dr. A. Detre, for Hungary; Dr. F. D. Harbitz, for Norway; Dr. de Josselin, de Jong, for Holland; Dr. Trimescu, for Roumania; Dr. Waldimiroff, for Russia; Dr. Oderantz, for Sweden, and Dr. Fritz Eger, for Switzerland.

Dr. Farrand's report showed a general increase of interest in the crusade against the disease. All over the world it was shown that legislative bodies are appropriating large funds for the erection of free consumptive hospitals and for improved sanitary conditions among the poor. Legislative bodies have adopted measures for instructing children in schools and lower class adults in the prevention of the disease. Every delegate who presented a report was satisfied that the ravages of tuberculosis were being greatly checked and all expressed great hope for the future. Dr. Farrand said that 3,695 new beds had been established in hospitals and sanatoria of the United States for consumptive patients since the first of the year. In the United States there were 196 special organizations for the prevention of tuberculosis, and all over the country compulsory registration laws were now in practical effect. According to a law recently passed in Massachusetts, children in schools must be taught how to avoid the disease.

Dr. Williams said that the death rate was extremely high in Ireland, 12,000 patients having died last year. He attributed the large percentage of younger victims to the fact that the schools were insanitary and that the children were not properly nourished.

Awards of Medals.

At the closing session, the awards of prizes for meritorious work in the study of means for the prevention of tuberculosis were made. Two gold and four silver medals are given every three years. The recipients of the gold ones this year were Dr. Frederich Althoff, Berlin, and Mr. Henry Phipps, New

York, founder of the Henry Phipps Institute in Philadelphia.

Dr. Bernhard Fraenkel, Berlin; Dr. C. Theodore Williams, London; Dr. Louis Landouzy, Paris, and Dr. Emilio R. Coni, Buenos Ayres, received the silver medals.

In 1905, Dr. Robert Koch and Dr. George Brouardel received the gold medals.

Next Meeting Place.

At this meeting, Dr. E. L. Trudeau, of Saranac, was appointed honorary member for the United States in place of Dr. William Osler, of Oxford, England. The meeting then adjourned to meet next year in Stockholm, Sweden.

Other Papers Read.

The following papers were also read: "Tuberculosis and Traffic," Surgeon-General Sternberg, U. S. Army; "Tuberculosis and Traffic," Dr. Sherman G. Bonney, Denver; "Transmission of Tuberculosis by Traffic," Dr. C. J. Baradat; "The Red Cross Society in the Crusade Against Tuberculosis," Dr. Gotthold Pannwitz, Berlin; "Work of the Red Cross Society," Miss Boardman, Washington, D. C.; "The Red Cross Society and Early Diagnosis of Tuberculosis," Dr. Frederick Helms, Berlin; "Danger of Tuberculosis Infection and How to Prevent It," Dr. J. F. Heymanns, Ghent, Belgium; "Aid of the Tuberculous Poor in Their Homes," Dr. S. Arloing, Lyons, France; "Sources of Acid Fasts," Dr. Stephen J. Maher, New Haven, Conn.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Sixth Session, held at Washington, D. C., Sept. 28-Oct. 3, 1908.

SECTION II.—CLINCAL STUDY AND THERAPY OF TUBERCULOSIS.

Typho-Bacillose.

PROF. L. LANDOUZY, Paris: Although this form of tuberculosis has been encountered and recognized in civil and military practice, both in France and in other countries, it does not appear to me to have received sufficient attention from writers on nosology. I regard it, both pathologically and clinically, as one of the most distinct and clearly defined manifestations of acute septicemia due to the bacillus. At the time I discovered typho-bacillose, the pathologico-clinical manifestations of acute and subacute tuberculosis were currently divided into two distinct types: 1. In the first type, presenting itself in the form of a caseous bronchopneumonia, the tuberculous process within a few weeks or months produces infiltration and softening, ulceration and caseous degeneration—the identical picture, in fact, which requires several years for its production in the classic form of ordinary phthisis. At other times, presenting the form of caseous pneumonia, and running a more rapid course to a fatal termination, the tuberculous process, although characterized by caseation, has not time to reach the stage of ulceration and cavity-formation. These are the two forms of acute caseous phthisis. 2. In the second type the course of the disease is more abrupt. Whether the infection be generalized from the beginning, or a general dissemination of bacilli occur from an old tuberculous focus, the tuberculous process adopts the pace of a general infection, with rapid and fatal termination. The general intoxication of the organism and the wide diffusion of the pathologic process destroy the patient's life so rapidly that the lesions have not time to reach their normal development—fusion and caseation of the alveoli. The autopsy shows lesions entirely different from those produced in acute granular phthisis. The picture is that of an eruption of innumerable young miliary granulations, more or less diffuse, and it is the functional reaction which determines the clinical manifestations of the disease, whether respiratory, nervous or abdominal—these being the principal clinical types of acute granular phthisis, or *granulie d'empis*. 3. In addition to these forms, and distinct therefrom I discovered certain others in which the bacterial intoxication and infection assume an entirely different aspect, with sufficient characteristic features to constitute a new type of bacillary septicemia distinct from the two preceding ones. This third type, called "typho-bacillose," manifests itself exclusively by a typhoid state, with continuous fever and enlargement of the spleen, and without any signs of visceral localization. At first glance there seems to be a striking resemblance to typhoid, due to the Eberth bacillus, and these two typhoid states are frequently confounded. Indeed, they can be differentiated only by certain delicate shades of differences in the symptoms. These consist, in the first place, in irregularity of the fever curve, which, although continuous as in typhoid, shows greater oscillations, and the irregularities observed from day to day, or from week to week, are greater. In the second place, there is a lack of correspondence between pulse rate and temperature, the pulse ordinarily being much more accelerated in typho-bacillose than in typhoid fever. There is also striking absence of localizing symptoms in the viscera: no pharyngeal or bronchial catarrh (which is constant in typhoid fever); no intestinal catarrh or constipation; and, finally, no rose spots. If, as happens, in rare cases, this bacillary continued fever terminates fatally in two, three or four weeks, the autopsy furnishes an explanation of this deceptive symptomatology in the absence of localizing signs in the viscera. Nothing is found but the ordinary congestive and degenerative lesions seen in all severe septicemias; the lesions are diffuse and show no special preference for any one organ. Occasionally a few minute granulations, no larger than the point or head of a pin, may be found. They are isolated, gray and translucent, and insufficient to produce a local symptomatology; in fact they barely suffice to stamp the disease with a special character. Laboratory methods in the past few years have furnished scientific proof of the existence of typho-bacillose and greatly facilitated the diagnosis of the condition. In the first place, we can make an absolute diagnosis of typhoid fever due to the bacillus of Eberth in every case by recovering the pathogenic micro-organism in the feces, by the Widal reaction, and especially by blood cultures. This method enables us to recognize with certainty disease caused by the paratyphoid bacillus. In the second place, inoculation of a guinea-pig with blood taken from a vein, reinforced by the serum reaction of d'Arloing and Courmont, Calmette and Guérin's oculoreaction, and Jousset's inoscopy (Jousset, *Semaine Médicale*, January 19, 1903), enables us to recognize with certainty the septicemias caused by the bacillus of Koch. Applied to the diagnosis of typho-bacillose, these laboratory methods furnish the clinician an invaluable and indeed an indispensable aid in bringing certainty into the diagnosis. They enable us to eliminate typhoid fever, and often to catch alive the cause of the disease, namely the bacillus of Koch.

Specific Therapy of Pulmonary Tuberculosis.

PROF. ED. BÉRANECK, Neuchâtel, Switzerland: Antituberculous immunization up to the present time has given only relative results. These results, however, are sufficient to enable us to affirm that homotypic or heterotypic tubercle bacilli are capable of conferring on inoculated animals marked resistance to experimental or natural tuberculosis. The difficulties encountered in these attempts at vaccination are due to the biochemic character of Koch's bacillus. Although Koch's bacillus may act as a vaccine, it can not be used in its natural state in the treatment of a patient with tuberculosis. Under these circumstances it is necessary to make use either of the toxins secreted by this bacillus in the culture medium, or of the toxins constituting the body itself of this bacillus. Do the immunizing properties of the tuberculous toxins justify the utilization of these toxins in a specific treatment of tuberculosis? Yes. The different tuberculins are not identical with one another.

Tuberculin Treatment of Tuberculosis.

PROF. DR. K. HAMMER, Heidelberg: Tuberculin—old tuberculin and new tuberculin—deserves to be considered at length in the treatment of tuberculosis of the lung as well as of other organs. Tuberculin properly used is a harmless remedy. The physician prescribing it must be well acquainted with the technic of its employment and must have sufficient experience to be capable of judging the signs of reaction. Tuberculin can be used in all—even in the most advanced—cases of tuberculosis. In these recovery can not be hoped for, but many disagreeable symptoms can be eliminated. Recovery is to be expected in cases of the first stage, also in cases of the second, and sometimes even of the third stage. The ideal method of treatment at present is a combination of the climatic with tuberculin.

Specific Curative Action of Tuberculin.

Dr. E. Meissen, Sanitätsrat, Hohenhonnef: It is not proven that tuberculin has a specific curative action. Neither animal experiments nor the results obtained in man justify such a conclusion. The bewildering mass of new tuberculins and the constantly growing number of methods of application are sufficient proof that the question is still open, and that further experiments are necessary. The patient must be kept under the most careful supervision during the treatment with tuberculin. This is possible only in hospitals and institutions; hence the method is not suitable for general practice.

In judging the value of the tuberculin tests, one must distinguish between tuberculous infection, i. e., the formation of small latent foci, which is exceedingly common even in healthy individuals, and tuberculous disease, which manifests itself by clinical symptoms in the lungs. The old subcutaneous tuberculin test after Koch is a delicate reagent, both for tuberculin infection and tuberculous disease. It is not without danger and is too delicate for clinical diagnosis in general, and should be employed only in cases in which the local reaction can be observed. Von Pirquet's cutaneous tuberculin test, which is very simple and free from danger, is hardly less sensitive than the subcutaneous reaction. In doubtful cases it is even less suitable for clinical diagnosis than the former. It is, however, of value in studying the spread of tuberculous infection, and confirms the results of pathology. The conjunctival test of Wolff-Eisner is safe if properly carried out. It appears to be of value in determining the prognosis; or in other words, judging the resistance of the tuberculous organism. Absence of reaction, or a very feeble reaction in the presence of manifest tuberculosis, is a bad prognostic sign; while a positive reaction very probably indicates that the organism is still capable of fighting the disease, and if supported by hygienic, dietetic, or climato-therapeutic measures, may gain the victory.

Purposes of Tuberculin.

Prof. F. Petruschky, Danzig: Dr. Koch's tuberculin and similar preparations are sterile metabolic products of the tubercle bacillus. They serve three important purposes: First, For early diagnosis of latent tuberculosis; second, for specific treatment of the first stages of the disease; third, to control the recovery. In Germany tuberculin as a means of diagnosis and treatment has been adopted by the great majority of tuberculosis specialists. The cutaneous test (Pirquet's) affords a welcome simplification of the specific diagnosis. We should try most systematically to diagnose and treat tuberculosis with the aid of tuberculin while it is still closed and produces no infectious excretions. All attempts to segregate and to treat patients already *infected* are too late. All attempts at prophylaxis without employment of the specific remedy are like the use of a fire-engine without hose.

What We Are Trying to Accomplish with Tuberculin.

Dr. E. L. Trudeau, Saranac Lake, N. Y.: A clearer conception of what we are trying to accomplish by tuberculin treatment is necessary. There are two main theories: the vaccination theory, which claims to bring about by injections a specific immunity to tubercle bacillus, and the toxin immunization theory which aims merely to produce by steady and gradual progression in dosage the greatest degree of tolerance or immunization to chemical poison of the tubercle bacillus. Under the first conception, the specific immunization to the bacillus are Koch's later attempts at producing an immunizing tuberculin, both local and focal reactions being looked on as useful in the production of the specific immunity to the bacillus; also the work of Wright and his vaccine treatment guided by the readings of the opsonic index. Under the toxin immunization theory, of which Denys and Sahli are the most brilliant exponents, the main feature of the treatment is to produce by progression in dosage the highest degree of tolerance to the poison of the tubercle bacillus attainable, considering reactions and all constitutional disturbance as not only not desirable but to be avoided as much as possible. Neither is quite satisfactory, owing to our imperfect knowledge of the mechanism of tuberculin immunization. If we must have a working theory and must decide between the two, I prefer for the present to hold to the conception of an immunity that is principally at least antitoxic as produced by the treatment and to consider tuberculin habituation its essential feature and the best guide to dosage. If we accept the toxin immunization conception as the essential feature of the treatment and guide to dosage instead of measuring the degree of a questionable antibacterial immunity by the opsonic index or attempting to produce it more or less empirically by a series of reactions the severity of which we can not in any way control, the main features in treatment would be: To raise the degree of tolerance to tuberculin to the highest point attainable in each case by an almost imperceptible and long-continued progression in dosage. To avoid general and focal reactions as much as possible and consider them merely as evidences of intolerance. To follow no arbitrary rule, as to rate of increase or maximum dose to be reached, but to be guided merely by the degree of toxin tolerance of each patient as shown by the symptoms and general condition though the highest individual maximum dose attainable be only a small fraction of a milligram or a cubic centimeter or more.

The Maragliano Serum at the Phipps Institute.

Dr. Lawrence F. Flick, Philadelphia: Maragliano presented a paper under the auspices of the Phipps Institute on March 28, 1904, in which he announced: "First, it is possible to produce a specific therapy for tuberculosis; second, it is possible to immunize the animal organism against tuberculosis as is done in other infectious diseases, and there is good reason to hope for an antituberculosis reaction in man." The institute sent Dr. M. P. Ravenel to Maragliano's laboratory to study his methods. Dr. Leonard Pearson was sent to Europe to study the methods of other men in serum work.

Some of Maragliano's serum was imported for use in the institute and Dr. Ravenel made the serum according to Maragliano's method. Twenty members of the staff used the serum and reported on it. The consensus of opinion of these men was that the serum had no specific value. The cows used for making serum were tested for tuberculosis and found free from it. They were guarded against infection. They were immunized by injections with material recommended by Maragliano. The serum given by them seemed to be as satisfactory as the imported serum. On June 16, 1907, one of the cows died of general tuberculosis. At autopsy she was found extensively diseased. The other cow was killed and was found to be slightly tuberculous. The death of the cow from general tuberculosis brings up two important questions: 1. Can an animal give an immunizing serum and itself not be immune? 2. Does the withdrawal of serum from an animal deprive it of its protection against the tubercle bacillus?

Maragliano's Serum.

Dr. H. R. M. Landis, Philadelphia: Of 41 patients treated with Maragliano's serum, 7 (17 per cent.) showed evidences of marked hypersusceptibility (suffused face, dyspnea, oppression about the heart, rapid pulse, lumbar pain, muscular tremors, sense of impending death). No fatalities. These cases differ from the anaphylactic phenomenon seen in the guinea-pig in that there seemed to be no definite time for its occurrence. The anaphylactic phenomenon appeared in four of the cases after the third, tenth, twentieth and twenty-second injections. The injections were given every other day; dose varying from 1 to 3 c.c. In 2 patients the evidences of hypersusceptibility occurred twice after the third and fourth and after the tenth and eleventh injections. One case was atypical. The patient had fainting attacks and a sense of impending death after the sixth injection. These attacks continued throughout the treatment of twenty-seven injections. All these patients had advanced or moderately advanced disease and were confined to their beds. Ambulant patients in good condition did not develop anaphylaxis: 4 or 6 ambulant patients had the "serum disease." Skin eruptions appeared in 6 cases after the fourth, fourth, sixth, sixth, tenth and fifteenth injection. The other phenomena noted were herpes labialis in one: herpetic eruption about the site of injection in 3: there was a severe inflammatory reaction at the site of the injection in 7: adjacent lymph glands were enlarged and tender in 10: severe joint pain occurred in 3: lumbar pain in 2.

JOINT MEETING OF SECTIONS I AND II.

The Opsonic Index in Certain Tuberculous Infections.

Dr. Thomas Wood Hastings, New York: From the nature of the tubercle bacillus infection (chronicity) and from the relation of opsonin to infection one is justified in applying studies of the opsonic index in non-pulmonary conditions to the problems relating to pulmonary tuberculosis. Among twelve pulmonary patients examined, two gave indices within normal limits, and this fact called attention to the inconstant occurrence of a low index in tuberculous infections. In ten pulmonary patients the few isolated determinations of the index were low, below 0.6, regardless of the condition. The indices, therefore, did not correspond to the clinical condition and they certainly were not to be used as guides to inoculation. The one fact emphasized by all the records is that wide variations in the index occur in tuberculous individuals, but not invariably over short periods of time, so that to establish a pathologic variation the safe plan is to estimate indices two or three times a week for a period of two weeks.

Experiences with the Cutaneous Tuberculin Reaction on Two Hundred Postmortems on Children.

Dr. C. von Pirquet, Vienna, described the technic of the different new methods and the advantages of the cutaneous reaction:

Of 1,600 children, who in two Vienna children's hospitals underwent the cutaneous proof, 200 died and were carefully dissected: 68 cases were found to be positive in the reaction: 66 showed in the postmortem macroscopic tubercules: only in two cases was the result of the dissection uncertain, and in one of these a pleuritic adhesion of the pericardium was found. I came to the conclusion, therefore, that of a positive cutaneous reaction an infection of tuberculosis can be concluded. A negative reaction was found in the following: In all (109) remaining cases of negative postmortem: in several cases of fatal tuberculosis, particularly in older children, when the proof was only made some days before death: in cases of tuberculosis when the proof was made during the illness of measles; in some cases in which none of the above causes could be given.

The Opsonic Index in the Diagnosis of Pulmonary Tuberculosis.

Dr. George P. Sanborn, Boston: This detailed study of the variation in the tuberculo-opsonic index was made in a case of pulmonary tuberculosis, under conditions of rest, moderate activity, hard work and after inoculation with tuberculin B. E. The observation covered a period of about two months in the patient's history, with opsonic determinations from one to three times a day during most of this period, undertaken in the clinic and laboratory of Prof. Sir A. E. Wright, November, 1907, with strict adherence to his methods. The aim was to achieve data on which to base specific treatment, which resolved itself into a study of the degree of autoinoculation that the patient was subject to from her own activities.

A study of the curves developed these points:

1. Rest and light work may be compatible with a repeatedly normal opsonic index.
2. Hard work may, however, produce an elevation in the opsonic power (auto-inoculation).
3. Correspondence between the effect of exercise and of tuberculin on the index is evident, suggesting similarity of stimuli.

The application to diagnosis then depends on the variation of the opsonic index following exercise. The latter must be varied to suit the case. Three methods of application. The advantages of such methods are: 1. Absence of discomfort to patient and greater accuracy than the old tuberculin test. 2. Avoidance of the conjunctivitis of Calmette's test. 3. Greater accuracy of localization than is possible with either, or with von Pirquet's reaction.

Accuracy of the Tuberculo-Opsonic Index and Its Value as a Control to Tuberculin Treatment in Pulmonary Tuberculosis.

Drs. Hugh M. Kinghorn, David C. Twichell, Norman M. Carter and **Mr. F. W. O. Werry**, B.A., Saranac Lake, N. Y., divided their joint paper into two parts. The first deals with the accuracy of the tuberculo-opsonic index, and the second with the value of the test as a control to tuberculin treatment in pulmonary tuberculosis. The authors think that while it is quite impracticable and impossible to use the test each day on each patient, yet from their work the test has shown itself to be of definite value with regard to spacing doses: namely, that the intervals between doses should occasionally be considerably longer than from three to four days. They regard the tuberculo-opsonic test as one of fair accuracy, but think that it is of doubtful value to control tuberculin injections on phthisical patients. They think that the aim of tuberculin treatment is rather to produce tuberculin immunization than merely to keep the opsonic index at a high level.

The Early Diagnosis of Tuberculosis.

Dr. A. Wolff-Eisner, Berlin: The subcutaneous injection of tuberculin is a delicate test of the existence of tuberculosis; but as it also shows latent tuberculosis, its clinical value is relatively slight. The same is true of the cutaneous reaction, which may, however, be employed for purposes of diagnosis because it differs from the subcutaneous injection by being absolutely free from danger, and because a negative result is of considerable diagnostic value. The conjunctival reaction gives positive results only in the presence of active tuberculosis. It can be proved that the reaction is positive in 85 per cent. of all cases of active tuberculosis in the initial stage, and, conversely, only 25 per cent. of apparently healthy individuals react positively as compared with the subcutaneous method. The conjunctival reaction is absolutely without danger if the contraindications are observed. The conjunctival test with 1 per cent. tuberculin should not be employed when there is actual or suspected ocular tuberculosis, and when the patient has had an attack of tuberculous keratitis or phlyctenular conjunctivitis. I distinguish the normal reaction, which runs its course in 4 days: the rapid reaction, which is complete in 24 hours and indicates an unfavorable prognosis: the permanent reaction, which persists for from 6 to 20 days, and is a favorable prognostic sign: it is observed chiefly in cases of healed tuberculosis. The prognostic significance of the reactions is very great.

Conclusions from One Thousand Eight Hundred and Seven Conjunctival Tuberculin Tests by a Uniform Method.

Dr. Edward R. Baldwin, Saranac Lake, N. Y.: The cutaneous test was applied in 52, and the subcutaneous in 89 cases, followed by a considerable increase in percentage of positive reactions in the suspected class. The conclusions are: The conjunctival tuberculin test performed with weak solutions by a single instillation has some value in confirming the presence of tuberculosis in the early stages. It has little value when the symptoms of tuberculosis lead only to a suspicion. Its value in distinguishing "active latent" from healed tuberculosis in apparently healthy persons has not yet been determined. Repetition of the test in the same eye has no advantage over the cutaneous and subcutaneous tests in the percentage of reactions produced, and may be misleading and dangerous. Repetition in the other eye by my method offers so little advantage that it can not be recommended. The conjunctival reaction is unreliable for prognosis. Used with the proper precautions, danger to the eye is slight and need not preclude the test when other methods are inapplicable, as when fever is present. It should be restricted to adults, since the cutaneous test has been found equally valuable for children, and is harmless. The cutaneous test by the simultaneous use of dilute and strong tuberculin offers a method of at once detecting or excluding tuberculous infection with no danger or inconvenience. Experience is needed to show the value of this method. The subcutaneous test should be restricted to those cases in which a focal reaction is desired and when the other tests result negatively.

Ocular Reaction to Tuberculin.

Dr. Fernand Arloing, Lyons, France, confined himself to a report of personal clinical and experimental facts:

The experimental facts, which show that a positive ocular reaction to tuberculin may be obtained in non-tuberculous subjects, accord with the clinical cases of positive reactions in the non-tuberculous suffering from typhoid, staphylococcic, syphilitic or some other infection. To sum up, the ocular reaction is a convenient and easily available diagnostic procedure; it sometimes fails in patients who are certainly tuberculous: and on the other hand, may occur in subjects not suffering from a bacterial infection. Its diagnostic value, although considerable in practice, is nevertheless not absolute. The test is not always harmless. It has not proved itself superior to the bacillary serum agglutination, which has the advantage over the ocular test of being absolutely harmless, more constant and more delicate. Finally, the ocular reaction is an indication rather of the degree of intoxication of the organism, while the serum reaction reveals the forces available for defense against the infection.

Use of the Differential Cutaneous Reaction in Diagnosis, Pathology and Treatment of Tuberculosis.

Dr. Ladislaus Detre, Budapest, described a modification of von Pirquet's procedure, which consists in the application to the skin, after von Pirquet's method, of three different substances at the same time: (a) Concentrated old tuberculin; (b) filtrate of a culture of human tubercle bacilli: and (c) filtrate of a bovine culture.

The reaction to human or bovine toxin should be determined under the following conditions:

(a) To confirm a difficult diagnosis and answer certain hygienic questions in regard to infection-carriers and the mode of infection (inhalation or ingestion).

(b) In the study of the question of the dualism of the tubercle bacillus. *Cattle react much more vigorously to bovine than to* human filtrates.

(c) To answer the question in regard to the origin or type of the bacillus or tuberculins (or filtrates), which can be done in from twenty-four to forty-eight hours by selecting the test individual according to his reaction to human or bovine tuberculin.

(d) When it is desired to immunize a patient for therapeutic purposes, to the toxins of both types of bacilli.

Most tuberculous individuals can readily be immunized with the concomitant toxin, and are intolerant to the dominant filtrate; hence the therapeutist will select the substance to be employed by the cutaneous picture, and thereby avoid the unpleasant after-effects which sometimes follow the use of unsuitable toxins. The concomitant filtrate produces immunity to the toxin, while the dominant produces intolerance. By means of the systematic employment of the differential cutaneous reaction it is possible to immunize a patient against the toxin; provided, of course, that the clinical symptoms are kept under accurate observation, with much greater ease and certainty than has heretofore been possible. The technic is simpler, the results are objective and more certain, and more easily perceived than the results of the opsonin method. The differential cutaneous reaction is recommended to other investigators who wish to gain an insight into the pathologic conditions of tuberculous patients, and who endeavor to influence the tuberculous process by immunization methods.

The Conjunctival Reaction of Tuberculin.

Dr. V. Malmström, Stockholm, has experimented with the conjunctival reaction on 252 patients:

Out of the established tuberculous patients, 69 per cent. gave a positive reaction at the first experiment, 17 per cent. only at the second one: total, 86 per cent. Out of the suspicious cases, 37 per cent. gave a positive reaction at the first experiment, 10 per cent. only at the second one: total, 47 per cent. Of the patients clinically exempt of tuberculosis, 10 per cent. gave a positive reaction at the first experiment, 4 per cent. only at the second one: total, 14 per cent. In some cases the reacting brought about fever. Of the 25 cases in which a postmortem examination has taken place, 20 (9 tuberculous, 11 not tuberculous) confirmed the result gained by the conjunctival experiment. In 5 cases, which had not reacted, tuberculous alterations were found. A patient suffering from diabetes mellitus reacted positively at the second experiment, but did not show any clinical signs of tuberculosis. At the postmortem tuberculous alterations were found in the glands of the mesenterium of the small intestine, otherwise there was no tuberculosis. On 11 patients subcutaneous as well as conjunctival experiments with tuberculin have been made. There was complete concordance in 8 cases, difference in 3. From the foregoing experiments the conclusion is drawn that the conjunctival reaction, though of the greatest value as a diagnostical expedient, gives no verdict, either in a positive or in negative direction.

Serum Diagnosis of Tuberculosis.

Dr. Mary C. Lincoln, Chicago, read this paper, which will appear in full in The Journal.

Cutaneous and Conjunctival Tuberculin Reactions in the Diagnosis of Tuberculous Infections.

Prof. A. Calmette, Lille, France: Of 2,894 clinically tuberculous patients, 92.05 per cent. gave positive reactions to the conjunctival test: of 1,081 persons with clinical suspicion of tuberculosis, 57 per cent. were positive, and of 2,328 persons either apparently healthy or without suspicion of tuberculosis, 16.8 per cent. were positive with the same test. Of 55 children or adults who had given positive conjunctival reactions, although not previously suspected of tuberculosis and who came to postmortem, macroscopic tuberculosis lesions, most frequently in the tracheobronchial glands were detected in 49. In 6,303 tests, the only complications noted were in 3 phlyctenular keratitis, in 20 conjunctivitis, and in 72 reactions prolonged beyond three weeks. In no instance did graver disturbances or permanent ocular lesions or visual defect occur. In general early reactions are observed most frequently with suspected tuberculosis, and late and slight reactions with developed tuberculosis. Cachectic patients and those with acute miliary tuberculosis, tuberculous peritonitis and hypertoxic tuberculous infections react very feebly, late or not at all with the conjunctival as well as with the cutaneous and subcutaneous tests. Experimental and clinical observations demonstrate that the ophthalmic test reveals almost always active or developing tuberculous foci, but is negative with simple carriers of bacilli and with those with calcified or healed lesions, who it would seem often react to the cutaneous test. Repeated instillations of tuberculin in healthy subjects never give a reaction when the interval between successive instillation does not exceed five days. Local anaphylaxis disappears in about twenty-five days. In general, no ocular reaction occurs in patients treated with subcutaneous injections of tuberculin until over a month after suspension of treatment. Conjunctival redness may reappear as the result of subcutaneous injection of tuberculin as late as six weeks after submission to the ophthalmic test. A positive result by the double test furnishes almost conclusive evidence of the existence of an active tuberculous focus. Other well-recognized clinical and laboratory methods of diagnosis still hold an important place.

Studies of Tubercle Bacilli from the Tissues of Special Forms of Primary Cervical Adenitis in Man, Particularly Intermediate and Atypical Varieties.

Dr. Charles W. Duval, Montreal, read a paper which was based on the study of atypical forms of the tubercle bacillus isolated directly from the tissues of four cases (human) of primary cervical adenitis.

In each patient the clinical picture completely corresponds, the disease first began as a neck swelling, which rapidly increased in size and in six to eight weeks from the onset proved fatal. Autopsies showed primary lesion in cervical region and acute general miliary tuberculosis. Pure cultures of the tubercle bacillus were recovered directly from the cervical pus at the time of surgical intervention. In two cases the enormous numbers of acid-fast bacilli in the internal organs were remarkable (analogous to the picture sometimes seen in leprosy and avian tuberculosis). Of the four cultures studied one corresponds to the bovine and another to the human type (according to Theobald Smith). The two other cultures are "intermediate" or atypical forms. It is impossible to classify them with the bovine or human groups. One is perhaps a modified bovine strain. The other may be an avian type attenuated by its sojourn in man. The cultures have been carefully studied and compared with well-known avian, bovine and human types over a period of two and a half years. I critically studied the Theobald Smith glycerin-bouillon reaction from the following standpoints: (1) its value in the routine separation of the two main groups of tubercle bacilli (its practicability); (2) does it serve to separate bacilli of the lower-host species; (3) whether it is a qualitative means of identifying modified bovine types of bacilli in the human body; (4) the explanation of the reaction.

DISCUSSION.

Dr. William H. Park, New York, described the types of tubercle bacilli present in pulmonary tuberculosis and in certain other forms of the disease in human beings. He gave a preliminary report of the work done by Drs. Woglom, Krumwiede and Montgomery.

Dr. R. A. Lewis, Boston, discussed the subject of tuberculous cervical adenitis, and presented a study of the tubercle bacilli cultivated from fifteen consecutive cases.

SECTION III.—SURGERY AND ORTHOPEDICS.

Two Clinical Cases Suggesting the Surgical Possibilities in Tuberculous Meningitis.

Dr. H. P. Stites, Paducah, Ky., reported two cases of tuberculous meningitis in which he had trephined the skull and established drainage, followed by recovery:

The first case was a female child, aged 10. A medium-sized button was removed from the skull in the temporoparietal region just above the lateral sinus on the left side. The location of the opening was suggested by the marked symptoms on the right side of the body. The membranes bulged into the wound, and a free incision was made. A quantity of serofibrinous fluid escaped, in which tubercle bacilli were later demonstrated. The child regained consciousness immediately after recovering from the ether. On the eighth day after the operation the wound was allowed to close, and alarming symptoms appeared, but they were immediately removed on reestablishing drainage. The patient recovered entirely and is now well. The second case was that of a man, aged 29. In this case also tubercle bacilli were found in the discharge. Recovery took place as in the other case. I believe that surgical interference in these cases will often save life.

Tuberculosis of the Breast.

Dr. William Rodman, Philadelphia: This disease has been considered very rare. A study of 1,500 cases of disease of the mammary gland in St. Bartholomew's Hospital, London, has shown 1.5 per cent. of that number to be tuberculous. It occurs most commonly between the ages of 25 and 35. The pathologic forms are the discrete and confluent forms, intramammary abscesses and acute miliary tuberculosis. Tuberculosis is rarely associated with carcinoma, the author having been able to find but five cases in the literature, and one case of his own. The discrete form is difficult to recognize, the confluent form easy. It is apt to be confounded with actinomycosis, syphilis and carcinoma. The prognosis depends largely on whether the disease is primary or secondary: in the former it is good, in the latter bad. The surgical treatment consists in curetting and excision or amputation of the breast. It remains to be shown whether anything short of amputation of the breast is a safe remedy. At the same time, that is a serious remedy and would often be objected to by young unmarried women. In such cases it is better to perform plastic resection, and then amputation later, if necessary. He believes that vaccine therapy and Bier's hyperemic method should be used only as valuable adjuncts to the surgical treatment.

DISCUSSION.

Dr. Carl Wirth, St. Paul, Minn.: Was the milk from any of these tuberculous glands examined? I had a case in which an infant developed marasmus, and it was later found that the breast it had been nursing was tuberculous.

Mr. Arbuthnot Lane, London: Complete removal is the most effective treatment. All these patients whom I have seen suffered from autointoxication and constipation, as is the case in other forms of tuberculosis. The autointoxication has materially lowered the resistance of the individual, and an important element in treatment is thorough gastrointestinal drainage. The practice of the older practitioners in always ordering a purge when a patient is first seen is a good one.

Dr. Rodman: No examination of the milk was made.

Outdoor Treatment of Surgical Tuberculosis.

Dr. De Forest Willard, Philadelphia: Outdoor life night and day is as essential in the treatment of tuberculosis of bones and joints as in medical cases. Early diagnosis, with treatment by sunshine, fresh air, rest and proper mechanical and surgical procedures will prevent, and cure without deformity, a large majority of patients with joint diseases—25,000 doses of pure air in twenty-four hours are infinitely better than three doses of nauseous drugs that disturb digestion. Tubercle bacilli die in sunshine, but thrive in darkness, vitiated air and filth. They are inhibited by cold. Cold increases appetite, nutrition and circulation and encourages exercise and sleep—color, weight, strength and hemoglobin increase. A change from seashore to mountain is desirable. It has been shown that 90 per cent. of joint cases come from the poorer classes. Surgical sanatoria and hospitals separate from pulmonary cases are needed. They should be so constructed that, by means of movable window sashes, the beds may be thrown either outdoors or indoors, thus giving when needed the advantages of a warm room for surgical dressings and needed care, while at the same time the aseptic conditions prevent fatal mixed infection. It is obvious that joint patients require level ground for use of crutches. The housing of patients in tents has been found unsatisfactory, the tents being hot in summer and cold in winter. I advocate the building of roomy porches for beds, connected with private rooms or with hospital wards, open in summer and glass inclosed in winter. The windows should be large. There should be wheeled litters, screens, awnings, roof gardens. Portable cottages, day camps near cities and forest schools for patients with hereditary tendencies should also be considered. There should be protection from cold. Newspapers should be placed under the mattress, and there should be plenty of clothing. Good food is essential. Great care is necessary in the selection of a situation. Many country houses are most insanitary. Tuberculosis of kidney, pelvis or viscera require the same treatment.

DISCUSSION.

Dr. John M. T. Finney, Baltimore: Johns Hopkins Hospital was the pioneer in this country in advocating the outdoor treatment of surgical tuberculosis. In the early days of the hospital Dr. Halsted insisted on keeping these patients out of doors. The results have been most satisfactory. Early diagnosis is important, as many of these patients are treated at first for rheumatism.

Dr. R. W. Corwin, Pueblo, Colo.: All patients with tuberculosis, surgical or otherwise, should be treated in the open air and not in the hospitals of the large cities. There are two reasons why hospitals for tuberculosis have not been removed to the country, and these are ignorance on the part of the municipal authorities and because doctors are too lazy to go out into the country.

Dr. Carl Wirth, St. Paul, Minn.: Has secondary infection of the lungs been observed? In 4,000 cases of joint tuberculosis I have never seen a secondary infection of the lungs.

Dr. L. H. Montgomery, Chicago: It is universally conceded that the open-air treatment of any form of tuberculosis, whether surgical or otherwise, is desirable.

Dr. De Forest Willard: In my experience tuberculosis of the lung occasionally occurs after tuberculosis of the joints, but rarely. The majority of my fatal cases were due to tuberculous meningitis, and not to secondary lung tuberculosis.

Tuberculosis of the Nose, Mouth and Pharynx.

Dr. H. P. Mosher, Boston: Owing to the protective power of the nasal mucous membrane primary tuberculosis of the nose is rare. Primary tuberculosis is characterized by a superficial ulceration situated over the anterior part of the cartilaginous septum. Secondary tuberculosis of the nose is more common than the primary form. It is part of a general or of a pulmonary tuberculosis. The secondary form tends to produce tuberculosis tumors. Nasal tuberculosis has a slow, painless and progressive course. As a rule it does not extend to the pharynx. In making a diagnosis of tuberculosis of the nose the chief disease to exclude is syphilis. The final absolute test of tuberculosis of the nose, mouth and pharynx is the finding of tubercle bacilli. These are very hard to detect in tissue removed from the nose, mouth or pharynx. The finding together of giant cells and caseation is strong proof of tuberculosis. Before making a diagnosis of tuberculosis of the mouth, syphilis must be ruled out. In cases in which tuberculosis causes an abundant overgrowth of nodular tissue the presence of malignant disease is simulated. Tuberculosis of the pharynx is not uncommon as a secondary infection from tuberculosis of the lungs. The importance of tonsillar tuberculosis lies in the fact that an overwhelming majority of enlarged cervical glands are tubercular and that these glands are infected from the tonsils. Cervical tuberculosis is limited to the glands of the neck: it seldom gives rise to tuberculosis of the apex of the pleura or the lungs. The first step in the treatment of enlarged cervical glands is to remove the tonsils by thorough dissection. The treatment of tuberculosis of the nose, of the mouth and of the pharynx is the thorough removal of the tubercular tissue with the curette and the subsequent use of lactic acid. In this way small lesions may be made to heal; large lesions also may be made to heal for a time, but they break down again. In small primary lesions of the nose, of the mouth and of the pharynx, the use of tuberculin would seem to have a special field.

DISCUSSION.

Dr. William E. Casselberry, Chicago: A child was brought to me with cervical adenitis and chronic hypertrophy of the tonsil. The lymphatic glands of the neck were enlarged and indurated. The duration might have been three weeks or three months. I was asked: "Are those glands tuberculous, and, if so, shall they be removed surgically?" In this connection, I always remember a series of several hundred cases examined at autopsy and after operation and reported from a hospital in Liverpool, in which about three-fifths of the entire series were found to be tuberculous and the remainder a simple pyogenic infection of the glands. We have no means of determining in the living child, especially when the condition has not been in existence for a great time, whether it is tuberculous or not. My opinion under these circumstances is that the enlarged tonsil which has been the source of the infection, whether tuberculous or simple pyogenic, should be removed—wholly removed—with its capsule. The surgeon should then wait from three to six months. If the enlarged glands disappear after the removal of the tonsils, then in all reasonable probability they were not tuberculous. If they do not disappear, they are probably tuberculous, and should be removed surgically, by external operation.

Dr. H. P. Mosher: There are two well-defined classes of cases of tuberculosis of the larynx—the hopeful cases and the hopeless. One should keep his hands off in the latter cases.

Tuberculosis of Cervical Lymph Nodes.

Dr. Charles H. Dowd, New York, reported 275 cases treated by radical extirpation:

The disease is a serious one, probably with a mortality rate a little below 50 per cent. when untreated. I have studied 20 cases of bovine and human forms of infection. Small hard postoperative nodules are significant. The operation is usually a scar-saving procedure. The mortality rate of thorough operation is 0.33 per cent. The cures are apparently about 80 per cent., with another 10 per cent. or more of improvements.

DISCUSSION.

Dr. E. M. Sala, Rock Island, Ill.: I have had good results in these cases with the *x*-ray treatment, as it makes the nodules disappear in a reasonable length of time. I give ten minutes' exposure with a good strong light at a distance of five or six inches from the tube. I have had no severe burns at this distance. Surgery is the proper course of procedure, but when for any reason that can not be resorted to, good results can also be obtained from the use of the *x*-ray.

Dr. Charles H. Mayo, Rochester, Minn.: Children under 8 seldom require operation. The local focus of infection should be removed, if possible, that is, the tonsil, adenoid conditions in the throat, and nasal troubles. If, after such treatment, there still remains for a long period enlargement of the glands of the neck, then operation is indicated. Later in life most of these patients should be treated, not only by removing the local focus, but by removing the glands. It is best to recognize only three groups of glands, a deep group on each side, and a submaxillary and submental group. If tuberculosis attacks one gland, the whole group must be removed. The lymphatic system is very closely connected with the blood, and it is no farther to the lungs through the lymphatics than it is through the air passages. Recurrence takes place because the entire group of glands has not been removed.

Dr. Emil G. Beck, Chicago, discussed the use of bismuth-vaselin paste in the treatment of sinuses in connection with tuberculous glands of the neck. Only three patients have come under my observation who were treated by this method. Two of these cases have been reported by two physicians from Mississippi, who had injected the paste into sinuses which were left after operation. I have treated only one case, and in that I have used it to prevent a sinus. This patient was so tuberculous and had so many sinuses that operation was not advised, but one of the glands was suppurating and ready to open. It was opened with a very small incision, the bismuth paste was injected, and healing took place without the formation of a sinus.

Dr. C. H. Dowd: I have found one class of cases in which the *x*-ray treatment is valuable—those in which infection is very virulent. The tissue resistance in these is very low. Such a patient will perhaps have involvement of the sternocleidomastoid. The glands may be removed as thoroughly as possible, but a few weeks after operation there will be diffuse swelling in the area of operation. These cases are unfavorable for further surgical work. Nothing will remove the tuberculosis short of the most radical procedure, taking out the muscle or as much as may be involved, likewise the nerves that may be implicated. This may be done for cancer, but I do not believe that it is wise to do it in tuberculosis. These patients do very well under *x*-ray treatment.

Retroperitoneal Tuberculous Glands and Their Relations to Spinal Symptoms. (Tabes Mesenterica.)

Dr. Charles F. Painter, Boston: There are many intra-abdominal and intrathoracic pathologic conditions which confuse the diagnosis of tuberculosis of the spine. Among the most common of these are accumulations of tuberculous glands in the mesentery or behind the peritoneum. Glandular infection may occur from intestinal absorption, and the relation of accumulations of glands to the anterior surface of the vertebral column should be borne in mind. I have seen cases of retroperitoneal glandular enlargement. A careful study and physical examination are of value in arriving at a diagnosis. Treatment may be divided into hygienic, operative and mechanical.

DISCUSSION.

Dr. Wisner R. Townsend, New York: I appreciate the importance of conditions which simulate spinal disease, and I think that the Boston school of orthopedics deserves a great deal of credit for bringing forward information on this subject. The most important thing this school has done in the last few years in regard to spinal lesions is in having made it possible to differentiate the symptoms more clearly. It is unfortunate in this class of cases that an early diagnosis often can not be made. It is a good thing to call attention to the fact that these conditions exist, and that they are not so uncommon as has generally been supposed. A great many escape observation entirely, being treated as lumbago, etc., whereas in reality they are the beginning symptoms of a more serious condition.

Dr. Charles H. Dowd, New York: Is removal of the mesenteric glands possible in these mild cases? I have had experience in well marked cases of tabes mesenterica, and have been surprised to find how easy it is to remove large masses of these nodes and to get good healing. I have not had any experience, however, in operating on the class of patients referred to in the paper. Surgery surely offers a very promising field of treatment for this condition.

Dr. C. F. Painter: A good deal of work has been done on the aggravated form of mesenteric enlargements, but I have not operated in any of the cases of the milder type. I have been unable to persuade surgeons of the advisability of doing laparotomies in these cases. I have seen some serious cases, which surgeons have considered hopeless, and in which spontaneous recovery took place; therefore, the determination of what cases should be subjected to surgical treatment is still an open question.

Surgical Aspects of Tuberculosis of the Lungs and Pleura.

Dr. Samuel Robinson, Boston: The twentieth century has witnessed an advance in the technic of intrathoracic surgery by the introduction of the negative pressure method of avoiding the dangers of pneumothorax and also by the perfecting of the positive pressure method of obviating these dangers. The investigations of Sauerbruch, Brauer, Matas, Smythe, Greene, Janeway, Mayer, Tuffier, Seidel have proved that exploratory thoracotomy is attended by no greater danger than exploratory laparotomy. The above investigators will also agree that the partial or complete removal of one or two lobes of either lung is an operation which can be regarded as attended with little danger to the patient. The latter conclusion is based largely on animal experimentation, but it is a well known fact that the human thorax is less prone to infection and less susceptible to the dangers of pneumothorax than that of most animals which have been used in animal experimentation. The human mediastinum being a comparatively unyielding structure, the conditions of the unopened side of the thorax are not as unfavorable as is the case especially in the dog. Granted, however, this newly justified procedure of thoracotomy for exploration or partial pneumectomy, what can be said as to the prospects of successful surgical attack on pulmonary tuberculosis? An insufficient number of patients has been operated since the perfecting of the new apparatus methods from which to draw any conclusions. It can no longer be justly stated that tuberculosis of the lung and pleura is out of reach of the surgeon, but the question remains an open one as to whether drainage or excision of tubercular foci in the thoracic cavity can ever result in the removal of the infection. It is at least to be hoped that the disease may be more successfully attacked by vaccine therapy and hygiene if the larger cavities of infectious material have meanwhile been excised or drained by the surgeon.

DISCUSSION

Dr. Emil G. Beck, Chicago, mentioned some experiments which Dr. Opie, of the Rockefeller Institute, New York, has been carrying out.

Dr. Opie infected the pleuræ of dogs with tuberculosis, and after they had developed the symptoms of tuberculous pleurisy the pleural cavities were injected with white blood corpuscles obtained from the pleural cavity of a healthy dog after the injection of an irritant. Dogs treated in this way and killed after a certain period of time showed that the pleural cavity had nearly healed, while the animals which were not treated in this manner died with the general symptoms of tuberculosis. At least 75 per cent. of all empyemas are the result of tuberculosis of the pleura and lung. Dr. Beck mentioned his method of treating empyema and tuberculous pleurisy by the injection of a bismuth-vaselin paste.

Dr. Russell Bellamy, Wilmington, N. C.: The work done by Dr. Robinson on rabbits is a tremendous step forward. I think that even if he is not successful to the extent of being able to attack the abnormal, his paper will be read by some one who will be able to bridge this chasm, and soon surgeons will be able to approach tuberculosis of the lung as the doctor has suggested.

Dr. H. Berlin, Chattanooga, Tenn.: We have been able to do something with negative pressure, and if we can get a positive pressure apparatus that is successful we will be able to do much more. Lung abscesses can be opened by this method, but what can we expect in a general tuberculosis of the lungs? We may be able to remove one or even two lobes of a lung, as has already been done in animals, but in what way can it benefit the patient to have this done?

Dr. S. Robinson: Some surgeons have said to me that they have opened the pleural cavity without any apparatus, and they do not see the need of apparatus and think that I give it undue credit. Although many operations have been done without apparatus, there is no way of telling whether the patient will collapse on opening the pleural cavity, and it is a duty at least to have ready some form of apparatus to prevent that collapse. In the first thirty operations on dogs the operations consisted in removal of a greater or less portion of the lung, and out of the thirty operations there were twenty-one recoveries. The deaths were largely in cases in which an attempt had been made to remove the entire right lung. In these operations it is absolutely necessary to have the apparatus going. If the apparatus breaks, the animal collapses immediately. By pulling the lung into the opening in the chest wall the symptoms of collapse can be arrested. A great deal of the surgery of the chest in the last fifty years has consisted of this procedure. I am convinced that the disastrous results in dogs are due to the mobility of the mediastinum, which is not the case with the rabbit; in the rabbit the heart seems to occupy a greater portion of the mediastinum than is the case with the dog.

SECTION IV: TUBERCULOSIS IN CHILDREN—ETIOLOGY, PREVENTION AND TREATMENT

Tuberculosis in Infants: an Analysis of 130 Hospital Cases as Regards Etiology and Diagnosis, with Remarks on Prevention and Treatment.

Dr. L. E. La Fetra, New York: The patients were all under 3 years, and the majority under 1 year of age. The mother, father or some one in close contact with the patient was found to have suffered from tuberculosis—almost invariably pulmonary—in nearly half of the *pulmonary* cases and in over one-third of the meningeal cases. Of the meningeal cases more than half had pulmonary tuberculosis. In the majority of the pulmonary cases it is impossible to make a diagnosis from examination of the chest. Some patients give no signs, many have simply generalized râles, while others have signs of bronchopneumonia or lobar pneumonia; very few give characteristic signs such as those of consolidation with adhesions or of cavity. The location of the consolidation is not characteristic. For an absolute diagnosis one must either find the tubercle bacilli in the sputum or see the lesions. A positive skin reaction in these young patients, however, is almost certain. If careful sputum examination and the skin test are both negative, one can feel safe in ruling out tuberculosis, no matter what the signs in the chest. Of the 73 pulmonary patients, 34 died, 29 were unimproved and 10 improved. Four patients seem to have recovered completely, with no signs in the lungs from one to two years after leaving the hospital. Prophylactically, the mother and father in a tuberculous family should be warned, before the child is born if possible, that tuberculosis is communicated to the offspring by close contact, especially such as nursing a tuberculous mother and by kissing. As complete isolation from the afflicted person as possible, prevention from crawling on the floor, and the use of only washable rugs on the floor—these measures, together with the usual hygiene, should be enforced. Milk from untested cattle should be sterilized. All children of tuberculous families should be examined periodically for physical signs and for the tuberculin skin reaction. In suspicious cases the child should be at once put under active treatment, if possible in a country home, forest school or sanitarium. Persistent coughs in infants should be actively treated, lest tuberculous meningitis supervene.

Tuberculosis in Children, Particularly with Reference to Tuberculosis of the Lymphatic Glands.

Dr. Theodore Shennan, Edinburg, presented tables which epitomize the results of an investigation of the postmortem reports of cases of tuberculosis in children who had been inpatients in the Royal Hospital for Sick Children, Edinburgh.

Out of more than 1,000 postmortem examinations, 407 were made on children dying from tuberculosis, and these reports are based on the last 307 of these cases. The important facts brought out refer to the frequency of occurrence of the disease in lymphatic glands, and to the dissemination of tuberculosis from these glands. The glands were affected in *a very large proportion of cases—77.8 per cent.* The thoracic glands were more frequently implicated than the abdominal. Excavation of the lungs was comparatively infrequent. In tuberculosis of abdominal glands 50 per cent. were unaccompanied by ulceration of the intestine, and in two-thirds of the cases in which there was ulceration of the intestine there was no excavation of the lungs. In 60 cases altogether (19.5 per cent.) ulceration of the intestine was present, without any preceding excavation of the lungs. In 137 cases (44.6 per cent) death was immediately due to tuberculous meningitis, and this appeared to follow dissemination from caseous glands—especially thoracic—in the vast majority of instances.

Relation of the Infectious Diseases—Measles, Whooping Cough and Influenza—to Tuberculosis in Children.

Dr. Edgar P. Copeland, Washington, D. C.: The disease is widespread, but is looked on by the public with insufficient seriousness. Though tuberculosis is observed to follow measles, whooping cough and influenza as sequela and complication, it is difficult to determine the relation and the proportion of cases in which the relation is observed. Statistics show tuberculous lesions in 31.2 per cent. of deaths from measles. The prevalence of latent tuberculosis is of importance. Catarrhal inflammation of mucous membranes, associated with hyperemia and lymphatic activity, is common to all three diseases. Lymphatic activity determines a dissemination over the body. The picture observed is usually general miliary tuberculosis with the pulmonary symptoms predominating. Influenza, though giving rise to many obscure chest conditions, is seldom followed by tubercle except when latent condition exists. Considering the prevalence of measles, whooping cough and influenza, tuberculosis does not follow sufficiently often to be of great importance. Its development in all cases is dependent on a *latent focus of disease;* and the dissemination is directly due to lymphatic activity.

Inquiry into the Opsonic Power of Breast Milk for Tubercle Bacilli.

Dr. William J. Butler, Chicago: It is a matter of observation that infants nursed by their mothers less frequently develop tuberculosis and many other infections than those children that are artificially nursed. It is generally considered that breast-fed infants are guarded *in a* measure by protective substances contained in human milk which are not present in cow's milk. It has been shown that diphtheria and other antitoxins, under certain conditions of immunity, are excreted with the milk. I have investigated, under normal conditions, the opsonic power that exists in human milk for the tubercle bacilli and other organisms, and compared them with those which are found in cow's milk, the latter forming the basis of artificial food for infants. The results of these investigations indicate that so far as this class of protective substances (opsonins) is *concerned,* the human milk is practically without them. I am continuing my work with a view of determining whether in conditions of disease such protective substances are excreted, or if this may be brought about by immunizing the mother against the infectious agent.

Children of the Tuberculous.

Dr. Theodore B. Sachs, Chicago: The well-known type of pulmonary consumption of the adult is, in a large proportion of cases, but the final result of successive infections, commencing *in infancy and childhood.* This is the growing conviction of the medical profession. *"An effective protection of the child from every source of tubercle infection (bovine or human) is expected to result in an appreciable reduction in the general tuberculosis mortality of all periods of life.* The disease *is not inherited, but acquired through close association* with tuberculous parents, who are either careless in their disposal of sputum or whose home surroundings are so defective in hygiene as to make the spread of infection absolutely unavoidable. I have examined 322 children of tuberculous parents, *of the laboring classes, in one of the congested districts* of Chicago. Twenty-nine per cent. of these children presented positive manifestations of the disease and about 10 per cent. more were classed as suspicious. A somewhat larger proportion of tuberculous cases among the children born after the parents became tuberculous *may be ascribed to the effect of* closer contact with the source of infection in the more crowded and unhygienic surroundings into which the family of a consumptive drifts with the *progress of his disease. The mortality from tuberculosis among children in general gives but a scant idea of the number of children infected. A large number* of children infected in the homes of consumptive parents present but mild manifestations of the disease requiring thorough medical examination for their detection; slight afternoon rise of temperature, defective nutrition and numerous other symptoms are overlooked in cases *positively tuberculous.* Through years of indefinite symptoms the *child gradually* develops all the stigmata of the phthisical type, when in the latter part of the second decade, or between 20 and 30 years of age, the disease is present in all its manifestations. To prevent development of tuberculosis in adult life, all possibilities of infection must be eliminated in infancy and childhood.

Transmission and Progress of Tuberculosis in Children Through Family Association.

Dr. Cleveland Floyd, and Dr. Henry D. Bowditch, Boston, contributed a joint paper on this subject:

As part of the work carried on at the Boston Consumptives Hospital during the past year about 1,000 children have been examined and treated. These children have been taken from *the poorest homes in the city* where *consumption* already exists, and the effort made to determine how many were infected and needed care. Of 679 children coming from tuberculous homes 36 per cent. were found to be suffering from tuberculosis of the lungs and 66 per cent. gave evidence of tuberculosis somewhere in the body. Many of these children had few or no symptoms of the disease and yet its *presence* was unmistakable. Children are peculiarly susceptible to bad surroundings. Overcrowding, lack of fresh air and sunlight, dirt and neglect prepare the way for the disease in many cases. The most important factor in the spread of the disease among children is the presence of the consumptive parent in the home. Direct infection from parent to child can only too commonly be traced. In a family where one parent had a well-marked case of tuberculosis examination showed four out of five children had consumption. No adequate provision has yet been made to place such children in good environment that *they may regain their health.* The work of removing the infected member of the family is being well worked out, but until we can care for all ignorant and careless consumptives, our problem in regard to children will continue *to be a* large one. Much can be done through isolation, education and cleanliness. A considerable number of children have been under observation in day camps and in the country. The results have exceeded expectations. Not only has the general improvement been rapid, but a number of active lesions have become quiescent after a few weeks' treatment. It would seem that the child at its receptive age is peculiarly open to ideas in regard to hygienic living and the recuperative power of the body at this stage in development makes the opportunity and results of treatment of great promise. In order to protect children better several measures are important. These are: Early notification of all births; better inspection and control of the milk supplies of cities; systematic school inspection; housing reform; segregation of advanced cases; required notification of the disease; provision for the care of pulmonary tuberculosis in children; education of all school children on matters of general hygiene. Nearly all these measures are being enforced in Massachusetts, and as the forces, sanitation and education, advance, the solution of the problem of tuberculosis is nearer.

Obstructive Abnormalities of the Ora-Nasopharyngeal Spaces in Children, a Powerful Predisposing Factor to Tuberculosis.

Dr. John J. Cronin, New York: The high percentage of deformities of the nose, throat and pharyngeal spaces found among children from tuberculous homes indicates that whatever may be the reason of the abnormal development of embryonal lymphoid tissue, the presence of the enlarged tissues in vital cavities predisposes the child thus affected to a lessened resistance against the constant exposure to tuberculosis. The conjunctival reaction, in the few cases tested, shows that there is a much higher percentage of positive reaction in those children with hypertrophied lymphoid tissue than in those in whom the tissue is associated almost universally with defect of the organs of the oral cavity; an unhygienic condition of the mouth and lack of development of the dental arches. The association of these defects is manifested in the general nutrition and development of the individual in that the anthropometric comparison show them to be substantiated. In the very few instances found where there was little or no hypertrophy of lymphoid tissue, there was a negative conjunctival reaction. Specimens of tonsils and adenoids were removed from children who showed no pulmonary abnormal condition and sent to the Research Laboratory, Department of Health, New York City, for injection into guinea pigs, provided the ocular tuberculin reaction were positive. Six such specimens were referred. Two showed tuberculosis in pig on autopsy. One boy subsequently developed pulmonary disease. If, therefore, nutritional and developmental growth is hindered by lymphoid structures obstructing vital spaces, and these same hypertrophied tissues offer a favorable nidus for growth and ingress of tubercle bacillus to the system, whereas the development of the child is enhanced after removal of these obstructions, should not some laws be enacted that children be relieved of remediable obstruction before entering school and some means be adopted to care for the children of tuberculous after treatment is had, that children may not be subject to constant exposure to the disease? Would it not be more economic for the municipality to care for needy tuberculous homes than allow and favor the spread of tuberculosis?

Human Contagion as a Factor in Infantile Tuberculosis.

Dr. Jules Comby, Paris. Tuberculosis is not hereditary. The transmission of Koch's bacillus from the mother to the fetus by way of the placenta is exceptional. The soil is not inherited any more than the seed. There is no doubt that tuberculous parents transmit the disease to their children, but if they do, it is through contagion. Family contagion explains almost all cases of infantile tuberculosis. Transmission through the milk or flesh of tuberculous cows plays an insignificant part in the transmission of the disease to the human species. The infant can be fully protected against this danger by a proper selection of cows and sterilization of the milk. My investigations have shown that tuberculous children are found only in families in which there are tuberculous members, regardless of the kind of milk consumed. On the other hand, I constantly find on postmortem examinations tuberculosis of the peribronchial glands, which therefore represent the aërial port of entry of the bacillus of Koch. Among 1,432 autopsies on children from the hospitals of Paris during fourteen years I found 529 tuberculous subjects, or about 37 per cent. Among 216 infants from 0 to 3 months, 4 tuberculous, or less than 2 per cent.; of 1,008 from 0 to 2 years, 252 tuberculous, or about 25 per cent. After the second year the proportion of tuberculous cadavers attains 45, 50, 60 and 65 per cent. All this is fully explained by human contagion. I think that prophylaxis should occupy itself with tuberculous human beings and not with cows.

Placental Transmission of Tuberculosis.

Dr. Alfred Scott Warthin, Ann Arbor, Mich.: Congenital tuberculosis is ordinarily regarded as extremely rare. The most common forms of tuberculosis of the placenta are the decidual and intervillous. Since tubercle bacilli may pass the placenta without causing local lesions, the absence of the latter does not signify that the fetus has escaped infection. In the case of placental lesions the chances are infinitely greater that bacilli may gain entrance into the fecal circulation. In the fetal blood stream they may be present in great numbers without exciting local lesions. The occurrence of latent infections of the new born is probable. The occurrence of pregnancy in a tuberculous woman favors the entrance of tubercle bacilli into the blood stream and then into the placental sinuses. The placenta is not a perfect filter for micro-organisms. It has no especial immunity against the tubercle bacillus. Congenital tuberculosis as the result of placental transmission is a definite factor in the etiology of tuberculosis and can not be dismissed with its mere recognition as a very rare possibility. While, of course, relatively rare, it is more common than is supposed, and must be borne in mind as a definite possibility in all cases in which the questions of marriage and pregnancy of tuberculous women come up for consideration.

Case of Miliary Tuberculosis in a Child Aged Four and a Half Months—Report of Autopsy.

Drs. A. L. Kotz and E. M. Green, Easton, Pa.: The patient, a female child, born December, 1907, at the age of two weeks was fed on cow's milk and at the age of four weeks was given certified milk modified. She gained steadily until 12 weeks old, then gradually lost flesh; temperature averaged 99.4 F.; abdomen was much distended. The child died when four and a half months old. Lungs contained two small nodules only; one or two mediastinal glands were involved. The peritoneal cavity was completely obliterated, and the intestines firmly glued together. The tuberculous foci consisted of a mass of tubercles fused into flat yellowish mass size of lentil. In the pancreas these masses were numerous, completely disorganizing the organ. In the intestines the tubercles were entirely confined to the serous and subserous coats and these were completely packed with tuberculous deposits. The muscular layers and mucosa were atrophied with small-celled infiltration. The tuberculous masses consisted of lymphoid and epithelioid cells surrounding small foci of coagulation necrosis, giant cells rare. The tubercle bacillus was most abundant in the epithelioid layer and on the outer surface of the necrotic foci. They were almost absent in the necrotic tissue and near the giant cells. Most of the bacilli were shorter, thicker and less beaded than the ordinary bacilli found in human tissue. Investigation showed that the farm from which the first milk was obtained (although carefully managed and thoroughly inspected) had one or two infected cows. They were highly bred Jersey cattle. The certified milk came from ordinary healthy inspected cattle among which no infected cows were discovered. The child was evidently infected during the third and fourth weeks of life and so violently that death occurred three months later.

Clinical Manifestations of Tuberculous Meningitis.

Dr. D. J. McCarthy, Philadelphia, considered the following types of atypical cases. Irregular fleeting palsies, especially of the eye muscles, blindness and dilatation of the pupils from internal hydrocephalus; stupor and delirium help to distinguish this type. Speaking of minor tuberculosis and of septic infection, cranial nerve involvement is very limited, but the pulse rate is apt to be high. Localized tuberculous meningitis is to be distinguished by the localizing symptom in a case of pulmonary tuberculosis. The productive and healing types show pathologic small tubercles with a spindle-shaped type of cell. Cases associated with traumatism are of considerable medicolegal importance. The principal purpose of the paper is to call attention to the fact that the source of infection must be discovered and laboratory diagnosis be considered as of secondary value.

Primary Localization of Tuberculosis in Children.

Dr. Woods Hutchinson, New York: The data so far collected appear to point toward the following conclusions as probable: First, the frequency of pulmonary tuberculosis in children is much greater than was formerly supposed. Second, the lung is the most frequent site of tuberculous involvement in children, as in adults. Third, whatever the port of entry, the lung suffers most severely and most frequently. Fourth, instead of tuberculosis having a special preference for the bones, joints and glands in childhood, the tuberculous process in these regions and tissues would appear to be secondary to the involvements of the lung and to represent a residual stage of a generalized infection. Fifth, it would appear probable that even the glandular forms of tuberculosis do not represent an earlier or milder form of the infection, but are secondary to a pulmonary involvement. Sixth, the moderate but appreciable degree of immunity against pulmonary tuberculosis possessed by children who have manifested osseous, articular or glandular forms of the disease is possibly to be interpreted on the theory that they have already survived a considerable degree of pulmonary involvement. Seventh, such immunity as may be acquired by civilized races is probably like the immunity of the negro races to malaria—the result of the survival of attacks of the pulmonary form of the disease in childhood. Lastly, the field in which the decisive battle of the future campaign against tuberculosis must be fought is the home; the chief enemy, infection in early childhood; the heaviest gun and most crying need, camps, "preventoria," for the reception and cure of infected or exposed children before they have become unmistakably tuberculous.

Distribution of Tuberculous Lesions in Infants and Young Children; a Study Based on Postmortem Examinations.

Dr. Martha Wollstein, New York: Among 1,131 autopsies on children under 4 years old, 185 showed tuberculosis. Whereas 78 per cent. of all autopsies performed were on infants less than one year old, tuberculosis affected 12 per cent. at that age. During the second year of life 33 per cent. of all who came to autopsy had tuberculosis, and of those older than 2 years 34 per cent. Four children were less than 3 months old, the youngest being 7 weeks. No case of congenital tuberculosis occurred. In one instance the only tuberculous lesion was found in the bronchial glands; in four the lungs alone were involved and in 13 the lungs and bronchial glands. There were 7 cases of primary infection of the digestive tract, including 2 of mixed deglutition and respiratory origin. Of the more advanced and generalized cases only 2 gave evidence of probable intestinal origin, while 40 began in the respiratory tract. In the majority of extensively generalized cases of tuberculosis in young children the exact point of entrance must remain in doubt. Although the lungs are involved more frequently than any other organ, this proves their marked predisposition to tuberculosis rather than their primary infection. Nevertheless, cases of respiratory origin predominate over those of ingestion.

Relative Frequency of Abdominal Tuberculosis in Great Britain and the United States.

Dr. David Bovaird, Jr., New York: 1. In the course of an investigation of the data regarding tuberculosis in children in various countries, in 1901, I showed that there was a remarkable discrepancy between the figures for primary intestinal tuberculosis in Great Britain and the United States. 2. That that difference is real and not due to any difference in interpretation of findings is borne out by the clinical data regarding abdominal tuberculosis in children in these countries. 3. The term abdominal tuberculosis as here used is meant to include tuberculosis of the intestines, mesenteric nodes and peritoneum. 4. Data from the hospitals of Edinburgh, Glasgow and London, compared with those from the hospitals of New York and Boston, show: *a*. That tuberculosis (all forms) is much less frequent in the United States than in Great Britain. *b*. That, taking this fact into consideration, there is still a marked contrast in the data regarding abdominal tuberculosis, showing it to be much more frequent in Great Britain than in the United States. 5. The contrast is sufficiently great to show that some special conditions must be present determining the unusual frequency of abdominal tuberculosis in Great Britain. 6. Abdominal tuberculosis may fairly be assumed to represent in general the frequency of primary intestinal or alimentary tuberculous infections. 7. The suggestion at once arises that the prevalence of abdominal tuberculosis in Great Britain is due to a corresponding preponderance of tuberculosis in cattle. 8. No such preponderance shown by data regarding bovine tuberculosis. 9. Further study of the data regarding abdominal tuberculosis shows this affection, in this country, at least, not to be common in infancy (first and second years), when cow's milk is most used as food, but to belong to the later periods of life.

Tuberculosis of the Pericardium in Children.

Dr. Joseph S. Wall, Washington: The occurrence of a group of cases of marked influence in the production of clinical symptoms, warrants the consideration of tuberculous pericarditis as a distinct morbid entity. This term may be used in such cases, while to other cases, characterized by their latency, which occur as an incident in tuberculous disease, may be applied the designation tuberculosis of *the pericardium*. The distinction, however, is but one of *degree*. The infectious diseases of childhood have an *etiologic* influence which is extremely suggestive, and such *influence* is to be attributed largely to the adenopathy of the mediastinal glands which follows in their wake. As a direct causative factor tuberculosis of the tracheobronchial and peribronchial glands stands foremost with extension of the disease to the pericardium by continuity and contiguity. The process may be plastic; it may be associated with small or extensive exudates, which are frequently hemorrhagic, or, as a final outcome, symphysis of the leaflets may occur.

Intermittent Albuminuria of Childhood Considered in its Relation to Hereditary Tuberculosis.

Dr. J. Teissier, of Lyons, France: Hereditary tuberculosis may attack the kidney in the child or in the adult in one of two ways: 1. Certain individuals present a more or less abundant albuminuria, which is preferably intermittent, and which may affect one of the well-known classic cycles; but it disappears as the pulmonary localization becomes established, or gives rise to general lesions, and may, therefore, be termed pretuberculous albuminuria. This form of albuminuria does not necessarily imply the existence of renal tuberculosis; but, on the contrary, seems to have a toxic origin, and resembles the bacteriolysis which is an expression of the spontaneous defensive forces of the organism. As soon as this spontaneous destruction ceases, tuberculosis develops and the albuminuria comes to an end. 2. There is a third series of cases which are more numerous. The kidney is affected in a peculiar manner, which we have been able to determine almost with certainty: the kidney reacts very slowly and sluggishly to the action of the tuberculous toxin transmitted by the parent, and a slight degree of latent nephritis is produced, which results in a relative impermeability, manifesting itself in a moderate diminution of the total molecular diuresis, an increase in the coefficient of Korany, and also in a slight elevation of the blood pressure: a moderately severe albuminuria, usually intermittent: either of the matinal (morning) type, or frankly orthostatic (present during the active hours of the day); and finally—as the hall mark of its tuberculous origin—a well defined d'Arloing Courmont serum reaction, often exceeding one fifteenth. These cases, which make up more than 34 per cent. of the statistics of intermittent albuminuria in young individuals, do not eventuate in actual tuberculosis. For this reason they seem to justify the term paratuberculous albuminuria, and many of these cases belong to the category of spontaneous immunization to which Courmont has recently called attention.

THE EXHIBITS

Since the opening of the congress the exhibition hall has been thronged with an incessant stream of visitors, who have not failed to take advantage of its great public educational features. While too much praise can not be given to those who have expended untiring energy in order to demonstrate the position of the United States in this crusade of nations against a common foe, it is a matter of regret that the magnitude of the movement in this country is apt to be underestimated on account of the failure of some of the states to participate in the exhibition. This inaction in most instances is due to legislative negligence. It is expected that the influence of the congress will stimulate and arouse action throughout the entire country.

As an educational feature, the exhibits are an unqualified success. They have been in charge of experts who, at stated intervals during the congress, have given personal demonstrations of their respective exhibits, occasionally supplementing them with stereopticon lectures. In order that the lessons of the congress may not be forgotten, the United States Public Health and Marine Hospital Service contemplates the preparation of a series of lantern slides to be taken from photographs of the most instructive features of the exhibits. It is intended to place these slides at the disposal of boards of health and others on application to the service.

In order to furnish more adequate information relative to the scope of the congress, we add the following notes to supplement the brief account given in THE JOURNAL, September 26, p. 1090.

Description of State Exhibits.

California.—This exhibit consists of plans and models of the Pottenger and Barlow sanatoria and a few mortality records.

Colorado.—The general exhibit of Colorado consists in a relief map of the state covering 186 feet, and wall maps showing climatic statistics. Special exhibits of plans and models are contributed by Cragmore Sanatorium, Modern Woodmen Sanatorium, Union Printers' Home, Agnes Memorial Sanatorium and others.

Connecticut.—This exhibit comprises data furnished by the state and local boards of health, numerous charitable organizations and hospitals.

Illinois.—The Illinois State Board of Health shows its pamphlet on tuberculosis. Conspicuously placed is a joint statement by the president and secretary of the board that on account of the failure of the general assembly to appropriate funds the board is unable to make a representative exhibit. The statement gives a summary of the campaign of public education in Illinois. The Chicago Department of Health contributes maps and mortality records. There are exhibits from Cook County Hospital, the Ottawa Tent Colony and others.

Iowa.—The Iowa exhibit shows pathologic specimens and the manner of conducting the educational campaign in that state.

Maine.—This state contributes an excellent series of placards. The board of health submits maps and photographs. There are models and apparatus contributed by the Maine Sanatorium and the Association for the Study of Tuberculosis.

Maryland.—The Maryland State Board of Health presents statistics and charts. There are instructive exhibits from the various hospitals and organizations. Pathologic specimens are contributed by Johns Hopkins Medical School, University of Maryland, College of Physicians and Surgeons and the Baltimore Medical College.

Massachusetts.—This state displays a series of photographs showing avoidable and unavoidable sanitary conditions associated with some of the occupations that are regarded as being conducive to tuberculosis. The photographs illustrate the cotton industry, the boot and shoe industry, horn and celluloid, pearl button making, etc. There are many models and exhibits of hospitals and organizations. Boston University has a magnificent collection of pathologic specimens of human and bovine tuberculosis. The collection is mounted in gelatin, according to the method devised by Dr. Waters of the university.

Michigan.—The Michigan State Board of Health shows charts and literature detailing the Michigan system of registration of tuberculous patients. There is an exhibit by the University of Michigan on the pathology of the placental transmission of tuberculosis. Local health boards and organizations are represented in the exhibit.

Minnesota.—This state shows architectural drawings, photographs of camps and hospitals, literature issued by the state and local boards of health, charts and statistics.

New Jersey.—This state is represented by charts and diagrams exhibited by the Prudential Life Insurance Company.

New York.—This exhibit is very complete and is made up of three sections, two of which are devoted to New York City. The work of the committee on the prevention of tuberculosis in that city deserves special mention. The permanent traveling exhibition of this committee is divided into five main classes: (1) Where tuberculosis breeds; (2) where tuberculosis spreads, (3) the extent of the disease; (4) how tuberculosis is cured, (5) how tuberculosis is prevented. The exhibition is intended for popular use in educating the community. Under each class are shown suitable models, wall charts and pictures and photographs that can be understood by the people. The Department of Health of New York City shows statistics and maps, the system of registration and sanitary supervision of tuberculosis. The tuberculosis clinics, hospitals and dispensaries give large exhibits. The New York State Department of Health shows charts and literature relating to the administration and legal phases of tuberculosis work and shows in its exhibit an ideal method of conducting the campaign. The banners, posters and lantern slides are calculated to impress on the working classes the dangers of tuberculosis and the means of its prevention. One of the features of the state exhibit is a series of phonograph lectures on the subject. There are many special exhibits from hospitals, sanatoria and local health boards. Prominent among the exhibitors are the Playground Association of America, the Straus milk exhibit, and the International Children's School Farm League.

Ohio.—Pictures, charts and models of hospitals and camps, together with a number of exhibits from the local boards of health and other organizations, comprise this display.

Rhode Island.—This state shows literature and methods in dealing with the subject. Models, photographs and plans of the state sanatorium are shown, together with a series of medical charts and specimens of work done by patients of the institution.

Pennsylvania.—The Pennsylvania State Department of Health shows the result of ample appropriations by the legislature. At the biennial sessions of the legislature in 1907 the sum of $1,470,000 was appropriated for tuberculosis work. The exhibit illustrates the general plan of the work under the following heads: (1) The collection and tabulation of statistics relating to tuberculosis, through reports of each case. (2) The establishment of one or more sanatoria for the treatment of incipient cases, including infirmaries for advanced and hopeless cases. (3) The establishment of dispensaries in each county of the state for the care of cases which can not avail themselves of sanatorium treatment, including home visitations and the study of occupational conditions. (4) The maintenance of pathologic laboratories for the free examination of sputum and tuberculous lesions, and biologic laboratories for the possible development of immunitive and curative products. (5) The restriction of tuberculosis by disinfection, etc. (6) The dissemination of knowl edge relative to the disease. Ample space is given to the exhibits of organized societies and hospitals. The Henry Phipps Institute shows a large and complete pathologic exhibit.

Wisconsin.—This exhibit consists of maps, charts and diagrams illustrating the work done in that state. The University of Wisconsin has *on view a traveling exhibit* prepared by the departments of bacteriology and hygiene and home economics.

Arkansas, Kentucky, Missouri, North and South Carolina, Texas and Virginia have small exhibits.

(The report of the proceedings of the sections will be continued next week.)

Medicolegal

What Constitutes "Illness" and Consultation of Physician—Waiver of Privilege.

The Supreme Court of Kansas says, in Metropolitan Life Insurance Co. vs. Baker, where one of the questions asked an applicant for life insurance was: "Give full particulars of any illness you may have had since childhood, and name of medical attendant or attendants," that it was true that the word "illness," as *used in such question*, was *open to interpretation.* No man ought to give lasting regard to all his little ailments, bruises, aches and pains. He *can not fix them in memory* if he would. They do not affect the risk in life insurance, and *the insuring company cares nothing about them. Therefore*, illness clearly means something more than a temporary indisposition, slight and trivial in its nature, and which does not really affect the soundness of the system, substantially impair the *health, materially weaken the vigor of the constitution*, or seriously derange the vital functions.

It is also true that *consultation* with a physician implies more than a casual meeting with one, and a passing remark *in reference to some bodily state or condition.* Incidental conversations of this character are not kept in mind, and are inconsequential, when *considered in relation* to a life insurance risk.

But if a man, *from motives of his*, has sought and obtained an interview with a physician regarding the state of his health, the fact of a consultation with the physician does not depend on the gravity of the subject of the interview. A man may *believe that he is in sound health*, but he desires an expert opinion on the subject. He may think he detects certain disturbances of his *normal condition*, which apparently are not serious, but he desires to know what those disturbances indicate. *He goes to a physician, tells* his story, *answers* questions, submits to an examination, receives advice, perhaps is given medicine, or other treatment, perhaps is assured there is nothing the matter with him, and is sent away *without* more. He has consulted a physician, whether he was sick or well. The man may have been foolish to consult one. Bread pills may have been an efficacious remedy for him, or he may have been stricken with a fatal *disease.* The fact of the consultation remains and can not be negatived by any showing whatever relating to the true state of his health.

Very often men, who are not strictly honest, seek insurance on their lives, and a life insurance *company may* properly be allowed to take full precautions against deathbed insurance. It is entirely reasonable that such a company should ask an applicant for insurance if he has consulted a physician. The question is simple and unambiguous. It is not like questions relating *to* illness, which may call for the opinion and judgment of the applicant on a debatable matter hard to decide. It involves nothing which the applicant can not answer categorically out of his own personal knowledge. It relates to a fact which may *be recollected*, as well as an illness. The question is important, because, if an affirmative answer be given, the company may make an investigation and ascertain the exact truth regarding the cause for the *consultation* and the state of health it *revealed or* ought to have revealed. It requires no *argument* to show *that* the action of the company may well be influenced by the answer to this question. Taking, therefore, even a narrow view of the right of the insurer to exercise its own judgment and stipulate as to what is material, it is entirely fair that the *truthfulness* of such answer should be made the subject of a *warranty.*

The plaintiff cited some cases from Vermont and elsewhere holding contrary to these views. They can not be approved. Nor is the *court disposed to* distinguish between the literal truth and the truth, unqualified, of an answer, *which must be* "Yes" or "No."

So the court holds that if an applicant for life insurance warrant the truthfulness of his answer to the question, "Have you consulted any other physician?" *and agree* that the policy issued in consideration of the warranty shall be void if the answer be *false*, the liability of the insurer depends on the truthfulness of the answer. An applicant who from motives *of his own has sought and obtained* a *professional* interview with a physician regarding the state of his health can not truthfully answer the question referred to in the negative merely because the *interview* concerned some *temporary* ailment or indisposition, slight in character and not seriously affecting health. The *fact* of a consultation with a physician does not depend on the gravity of the subject of the interview.

The court also holds that an applicant for life insurance may *make* a valid contract with the insurer, waiving the privilege afforded him by Section 323 of the Kansas Code of Civil Procedure, which renders a physician incompetent to testify to professional communications from his patient and knowledge *of his patient obtained* in a professional way.

The statute contemplates that the patient *may consent* to the physician's testifying. Therefore, *no* question of public policy is involved. The public policy of the state does not *depend on the will of individuals* who are free to act as circumstances may suggest to them. It is elementary *law that* communications, made in professional confidence, are not incompetent. If a third person hear them *he may* testify. The disqualification is imposed on the lawyer, physician or priest only, and not for his benefit or for the benefit of the public, but merely as a privilege to the client, patient or person confessing. This privilege, like many others, even those protected by *constitutional guaranty, may* be waived. By statute, if the party himself testify, the privilege is waived. If he publish the confidential matter to the world, the privilege is waived. *And it would deprive him of a* valuable right if he were prohibited from making a waiver by contract in advance of litigation

Damages for Injury to Bad Leg.

The Supreme Court of Missouri, *Division* No. 1, says that *the plaintiff's injuries* in the personal injury case of Peterson vs. Metropolitan Street Railway Company were permanent and serious. There was a fracture of the right femur at its neck, technically *called an "impacted fracture,"* the broken bone being driven into the upper piece at the hip joint and held firmly. He was bedridden for a long time and suffered much. His right leg was shortened. His right foot was everted. The *hurt leg being* weakened, and its use *impaired*, the result was a halting and crippled walk. There was testimony that his right leg had been a bad leg for eighteen or twenty years prior to the accident. Below the knee it was afflicted with varicose veins, and indolent, chronic sores and ulcers, at spells swelling and suppurating, and this condition continued after the injury. But the proof did not show, nor did *counsel* argue that the leg, bad as it was, did not fill a useful and necessary office to Mr. Peterson. Clearly, the defendant had no right to negligently break the neck of the thigh bone of a bad leg any more than of a good leg. *A leg* might be so *very bad that* to break the bone of it would cause little damage, but here, considering the permanency *of* the injury in resulting deformity and weakness and pain of *body* and anguish of mind following and *attending* the injury, the court is of opinion that, if the defendant was responsible therefor, and that responsibility was determined by a fair trial, a verdict of $5,000 was little enough

Current Medical Literature

AMERICAN.

Titles marked with an asterik (*) are abstracted below.

New York Medical Journal.

October 3.

1 *Irremovable Cancer. W. S. Bainbridge, New York.
2 *International Classification—Its Advantages, Defects and Deficiencies. C. L. Wilbur, Washington, D. C.
3 *Psychologic Tests Made on Tuberculosis Patients. W. S. Mills, New York.
4 After-Treatment in a Series of Forty-four Laparotomies. R. F. Woods, Philadelphia.
5 Apoplexy, Its Causes and Treatment. J. D. Bonnar, Buffalo, N. Y.
6 Repair of the Perineum. J. W. Henson, Richmond, Va.
7 Apoplexy in the Classification of Diseases. F. P. Foster, New York.

1. **Irremovable Cancer.**—Bainbridge classifies cases of irremovable cancer under the following heads: 1. Seemingly irremovable; 2. operable but irremovable, and yet curable; 3. operable, but irremovable and incurable; and 4. inoperable, irremovable, and incurable. Cancer may be seemingly irremovable on account of the patient's condition in other respects than as regards cancer; or concurrent complications in the neighborhood of the cancer may lead to the diagnosis of irremovable malignancy. Again, cases are sometimes consigned to the inoperable and hopeless class because the risk to the patient from operative procedure seems too great to incur on account of the extensive involvement and of the patient's lowered vitality. In the second class, the author points out that notwithstanding the difficulty of fixing a time limit on recurrence, early operation is called for, for it would be foolish to fold our hands and wait patiently for a cancer to disappear spontaneously, as it is said to do in 30 per cent. of mouse cancers. Again, in some cases, though it is impossible to remove the entire growth, we may remove as much as possible and institute other measures, such as Dawbarn's starvation method by tying the supplying arteries, or Wyeth's method of injecting boiling water or paraffin, etc. In the third class he discusses the management of cases with regard to the general treatment of the patient, the treatment of the indirect condition caused by cancer, the tying of blood vessels in the carotid region or in the pelvis, and other measures which may be adopted in certain cases with appreciable benefit. Among these he discusses the *x*-ray, which he states is a valuable adjuvant; the high-frequency current, which has some beneficial influence on the patient; fulguration, which is limited to external cancer; leucodescent light; radium, which in his hands has not proved satisfactory; the mixed toxins of *Bacillus prodigiosus* and *Streptococcus erysipelatis*—Coley's fluid—the use of which should be limited to certain types of sarcoma and to inoperable cases; and the toxins of *Streptococcus pyogenes.* He refers to oöphorectomy, and also to the use of pancreatic enzymes, which have been tried for many months at the New York Skin and Cancer Hospital, the question being still *sub judice.* A full report of two years' experience with the treatment will soon be published. In inoperable, irremovable, and incurable cancers, attention is chiefly directed to lessening pain, fetor and discharge. For pain, morphin, acetphenetidin, antipyrin and acetanilid may be mentioned. The depressing effects of the coal-tar products should be modified by stimulants. Alcohol in moderation with food may be useful. The fungating masses should be kept clean by frequent dressing. The galvanocautery, zinc chlorid paste and pancreatic lotion applied locally will help to keep the surfaces clean and to lessen fetor. It must not be forgotten, however, *that* while pastes and even pancreatic lotions may smooth off the surfaces, they may at the same time erode blood vessels and thus give rise to severe and perhaps fatal hemorrhage. Adrenalin chlorid is also useful. Terchlorid of antimony will help to check hemorrhage and lessen fetor in advanced uterine cancer after the vessels have been tied off and as much of the disease removed as possible.

2. **The International Classification of Diseases.**—Wilbur refers to the history of the International Classification of Diseases and Causes of Death, proposed by Bertillon, of Paris, adopted at the meeting of the American Public Health Association, at Ottawa in 1898, and endorsed by the American Medical Association, at Chicago, June, 1908. The date of the next decennial revision has been advanced from 1910 to next year (1909). Wilbur discusses the advantages of the international classification, its defects and deficiencies, and makes some general criticisms and recommendations. Incidentally, he cautions against confounding the international classification with a nomenclature of diseases, such as that drawn up by the Royal College of Physicians of London, which he wishes was in general use among physicians in the United States.

3. **The Psychology of Tuberculosis Patients.**—Mills records the results of a series of psychologic tests on 29 patients with tuberculosis. The tests used were those of perception of size, the esthesiometer, of visual memory, steadiness of movement, accuracy of movement, speed of movement, the dynamometer, the association test, and a test of retrospective memory. He draws the following conclusions: The tests seemed to show that previous mental training had much more to do with the results than did the physical condition. This was especially true as to the length of time consumed in performing each test. The patients were all intelligent enough to do what was expected of them, but it was entirely out of their accustomed routine, and hence they worked slowly. Performing the various tests was a distinct effort for most of them. The work started perspiration, and all left the examining room much exhausted. In all, the average of accuracy, sensibility and strength was lower than for healthy persons. The patients were sick physically, most of them had had little education, and the results showed the detrimental influence of both.

Medical Record, New York.

October 3.

8 *Serum Treatment and Prognosis, Under Various Forms of Therapy, of Cerebrospinal Fever. H. Koplik, New York.
9 Mistakes Which May Prevent the Best Results of the Uric Acid-Free Diet. A. Haig, London.
10 *Pneumonia on the Isthmus of Panama. W. E. Deeks, Panama.
11 Differentiation of Early Tuberculosis and Malaria. P. H. Ringer, Asheville, N. C.
12 Acute Otitis Interna. E. R. Stillman, Troy, N. Y.
13 Gonorrheal Exostoses of the Os Calcis. A. J. Davidson, Philadelphia.

8. **Cerebrospinal Fever.**—Koplik discusses the differences between sporadic and epidemic cerebrospinal fever. The sporadic cases are often so mild that the intermittent or remittent febrile symptoms, headache, and drowsiness, are the only ones that lead to a thought of cerebrospinal fever. The rigidity, the hyperesthesia, Kernig reaction, herpes, delirium, and gradually increasing hydrocephalus, as evidenced by the so-called Macewen sign, are usually present, but we rarely encounter the severer symptoms of the disease—sudden and abrupt unconsciousness, petechiæ, or diffuse hemorrhages, and paralysis. Cerebrospinal meningitis of a meningococcic type resembles pneumonia as seen in adults in the sporadic and epidemic form. Koplik gives a picture of the natural history and prognosis of cerebrospinal meningitis based on the records of patients treated since 1889 up to the epidemic years of 1904 and 1905. He discusses the treatment by simple lumbar puncture, and from that passes on to the serum treatment, describing briefly his method of giving the serum to the patient. A necessary indication is that the patient shall show symptoms of pressure and indications of cerebrospinal fluid. There must be not only delirium and sopor, but distinct signs of increase of fluid in the ventricles of the brain, as shown by percussion of the skull. When the Macewen percussion note, however slight, is obtained in a patient with symptoms of cerebrospinal meningitis, Koplik *proceeds to* puncture, strictly according to Quincke's injunctions, in the middle line in children and adolescents. Fluid is withdrawn till it is judged that the pressure in the rachidian space is approximately normal. The serum is then introduced, not with a syringe, but with a small glass funnel, capable *of holding* about 20 c.c. The puncture is repeated if the symptoms do not abate or the hydrocephalus persists or returns. *Koplik has* 13 patients thus far treated with the serum, 2 of whom are under *observation*, 2 have died, and the remainder, with the exception of one who was discharged improved, have recovered. He considers it unfair to draw conclusions as yet.

but the serum of Flexner not only makes a favorable impression, but is certainly a factor which can not be excluded from the therapy of cerebrospinal meningitis.

10. **Pneumonia at Panama.**—*Deeks* states that the mixed races showed poor resisting power in pneumonia. He discusses the characteristics of the disease as it showed itself on the Isthmus, and also the *pathologic findings. In regard to treatment* he points out particularly the misuse of quinin. In a district where malarial infection is almost universal, it is but natural to assume that quinin would be a *sine qua non* in the treatment of pneumonia patients. The direct opposite has been found to be the case. Its action is cumulative, depressing to the nerve centers and to the respiratory and circulating organs. It interferes with the development of leucocytosis by preventing the emigration of leucocytes from the blood, reduces the ozonizing powers of the erythrocytes and interferes with the elimination of waste products. From this he concludes that quinin in large doses in pneumonia is contraindicated. The treatment practiced in Panama was supportive and eliminative, and its results were satisfactory.

Boston Medical and Surgical Journal.

October 1.

14 *Acute Appendicitis in Children. B. Vincent, Boston.
15 *Mechanical Treatment of Diseases of the Circulatory System with Special Consideration of the Zander Methods. C. H. Bucholz, Boston.
16 *Final Report on a Case of Adams-Stokes' Disease.* H. F. Vickery, Boston.
17 *Measles *in utero.* N. B. Mason, Boston.

11. ***Appendicitis in Children.***—*Vincent summarizes her paper* as follows: Acute appendicitis is rare in infancy, but is more common in childhood than is generally supposed. An early diagnosis is difficult, and the first stages and lighter forms of the attack may be easily overlooked. The prognosis of the disease is more rapid in children than in adults; the involvement of the peritoneum and the appearance of pus are early features; diffuse peritonitis is probably more frequent, but there is still greater tendency to the formation of a localized abscess. A child is never so young and seldom so sick as to contraindicate *surgical interference*, but the extent of the operation must always be *measured by the condition* of each patient. Children stand short operations well, but may be needlessly lost through prolonged and ill-advised efforts to do more than is absolutely essential. The prognosis is more uncertain in children than in adults. Age is an important factor. In children over 10 years of age the prognosis is at least as good as in adults; in children under 5 it is worse, while in infants the prognosis is exceedingly grave.

15. **The Zander Method.**—Bucholz emphasizes the use of physical exercise in the treatment of internal diseases and points out that when Zander constructed his apparatus forty years ago he had in view the influencing of internal diseases—those of the circulatory system, as well as those of the locomotor system. Bucholz discusses the physiology of the effect of mechanical therapeutic methods on the blood pressure and velocity of the blood current. Ordinarily we can not remove the causes of various diseases of the circulatory system, but we can make the conditions *for their functioning* as favorable as possible. The *two fundamental factors* for this are rest and exercise; rest to prevent overuse of the organ, exercise to fit it to perform its work better. For instance, in treating a disturbance of cardiac compensation we apply rest to the heart by ordering rest in bed, withdrawals of fluids, etc. At the same time by giving digitalis, which augments the pulse volume of the heart and reduces the frequency of the beat, we give the organ exercise. Bucholz gives the *outlines* of the Zander apparatus and the method of their use.

17. **Measles in Utero.**—Mason describes a case in which a mother with typical measles gave birth to a child, delivery occurring during the period of desquamation. The infant showed a pigmentation all over the body and unmistakable desquamation. Mason asks whether the infant had measles or *whether* it was the normal desquamation of the new-born. He collates the literature on the subject *of measles in the* new-born.

Lancet-Clinic, Cincinnati.

September 26.

18 Dante: Physician (*continued*). A. G. Drury, Cincinnati.
19 Differential Diagnosis of Gallstones C. W. Mauss, Cincinnati
20 Bismuth-Vaselin Paste Injections. H. H Hines, Cincinnati.
21 Diarrhea. G. H. Jones, Toledo, Ohio.

Virginia Medical Semi-Monthly, Richmond.

September 11.

22 *The Voice as Affected by General Conditions W A Wells, Washington, D. C.
23 Artificial Feeding of Infants. G. A. Stover, South Boston, Va.
24 Treatment of Summer Diarrhea in Infants M. Newton, Richmond.
25 Plea for More Exact Therapy. A. F. Kerr, *Greensville, Va*
26 Ileus. B. L. Hillsman, Richmond.
27 Dermoid Cyst Removed Without Interrupting Pregnancy. W A. Strother, *Bedford City, Va*

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Annals of Surgery, Philadelphia.

September.

31 *Treatment of the Undescended or *Maldescended Testis* Associated with Inguinal Hernia. W. B. Coley, New York.
32 *Operation for Undescended Testicle. F. N G. Starr, Toronto, Can.
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38 *Recurrent Dislocation of the Ulnar Nerve. F. Cobb, Boston
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40 *Reduction of Supracondyloid Fracture of Humerus W C Lusk, New York
41 Twenty-five Hundred Cases of Gas-Ether Anesthesia Without Complications J J A. Van Kaathoven, Philadelphia

31. ***Undescended Testicle with Inguinal Hernia.***—Coley, on the basis of a study of 128 personal operations in cases of undescended or maldescended testis associated with inguinal hernia, arrives at the following, among other conclusions:

1. The undescended testis is almost invariably of little or no functional value. It often gives rise to considerable pain and is more subject to *inflammatory attacks* than the normally *descended organ, and possibly* (though this is by no means proved), is *more subject to malignant changes.* 2. The *undescended* testis should never be sacrificed in children and very rarely in adults, it having been proved possible to effect a radical cure of hernia without the removal of the organ. In childhood, the testis, even if it never attains any functional value, is of value in developing the male characteristics of the child as well as in promoting his general health. In the adult, it should be retained for its influence on the mentality if for no other reason. 3. Operation *should seldom* be performed under the age of from 8 to 12 years unless the accompanying *hernia demands* such operative intervention, for the reason that in a *considerable* number of cases the testis, unless the defect be bilateral, descends spontaneously on the approach of puberty. Abdominal ectopia, unless double, is best left untreated, inasmuch as operation is difficult and by *no means* free from risk. 4. The main principles *of any op*eration likely to yield satisfactory results *must be: free open-*

ing of the inguinal canal which is secured by Bassini's incision: thorough freeing of the testis from any adhesions or peritoneal bands, even with the sacrifice of some of the veins if necessary: bringing the testicle into the scrotum: and suture of the canal without transplantation of the cord The present tendency in favor of giving up all forms of suturing the testes, either to the scrotum, the other testis, or the thigh is, he believes, fully justified. Inasmuch as satisfactory results may be obtained without cutting away all the structures of the cord, except the vas and its vessels, this more radical step is very seldom indicated 5 No case of double undescended testis should be allowed to persist till the age of puberty.

32 **Undescended Testicle.**—Starr describes the following operation, which he has devised and carried out successfully in cases in which the testicle is in the inguinal canal or outside the ring. An incision about one inch long is made over the external abdominal ring the testicle is secured and brought out of the wound The finger is carried down into the scrotum and by blunt dissection the scrotal sac is stretched to make a suitable resting place for the testicle The cord is then dissected free of its coverings, and if necessary to secure increased length, the cremasteric and spermatic arteries may be sacrificed, but the artery to the vas must not be interfered with. It is well to see that the testicle can be easily replaced into the pocket provided, without tension on the cord. It is again taken out and sutured by means of chromic catgut, No 0 through the tunica albuginea to the loops of a piece of plaited silver wire, two or three inches long, as may be required. The wire ends are then pushed against the bottom of the scrotum and cut on to permit of their being pushed through The free ends are then bent. To make assurance doubly sure, two horsehair sutures are passed up through the tiny opening in the scrotum from which the wire projects one on each side of the wire shaft, to catch the tunica albuginea, are brought out again, and tied over the projecting wire ends The loop of the wire shaft is then sutured by means of 10 day chromic catgut No. 1 to the periosteum over the os pubis. The testicle is then securely placed in the scrotum and is maintained there by means of a silver wire splint The operation is completed by introducing through the skin, at one end of the incision, a horsehair suture which travels subcutaneously, taking up the spermatic fascia and divided cremasteric muscle over the cord. It is brought out again through the skin at the opposite end, carried over the top of a small roll of gauze, and continued along as an uninterrupted stitch, to bring the skin edges into apposition The two free ends are tied over another small roll of gauze The wound is carefully dressed with plenty of pads and a double spica applied On the twelfth day the dressing is removed, and the cutaneous horsehair, snipped at one end, is then easily withdrawn The two horsehair stitches are cut and removed, when the end of the wire is grasped with a pair of forceps and the wire splint removed

33. **Carcinoma of the Bladder.**—Berg asks the following questions 1 Is it possible to effect a lasting and permanent cure of a vesical carcinoma by a partial resection of its walls, or is it necessary in every case completely to excise the viscus? 2 In case partial resection is consistent with the requirements of a radical extirpation, how much bladder wall must be left in order to make a satisfactory urinary reservoir He analyzes Rafin's published results of ninety-six partial cystectomies for carcinoma, and says that, in view of these reports, there can not be any doubt of the possibility of a radical cure by partial resection of the bladder He further adds that on taking into consideration all the facts, first, that the freedom of recurrence after partial cystectomy is as great as that secured by complete extirpation: second, that the immediate operative mortality after partial cystectomy is not half so high as that after entire removal of the bladder: third, that the objections raised by Watson to ureteral implantation into the intestine, vagina or skin, do not apply to ureteral reimplantation into a remaining healthy portion of the bladder—he is forced to the conclusion that when we have to deal with growths limited to a third of the bladder and especially when their site is on the fundus and lateral walls, partial cystectomy with reimplantation of the ureter into the remaining portion of the bladder when the ureteral orifice is involved in the disease is by far the operation of choice. It must not be inferred, however, that the total extirpation has no place in consideration of the radical cure of this disease, for when the cancer is diffusely spread over the greater part of the bladder, thus forbidding us to save a sufficient portion thereof to form a reservoir for the urine, or when there is a bad cystitis that does not yield immediately to therapeutic measures and which necessarily increases materially the dangers of ascending ureteral infection after reimplantation of the ureters, then complete extirpation is advisable, provided the patient is otherwise sound. The preliminary operation of lumbar nephrostomy would certainly seem to be indicated when complete excision is done. In reference to the second question, he says that one should be able to remove fully one half of the bladder without materially interfering with the function of this organ, and that the removal of a third of the viscus does not have any appreciable effect on the function of the remaining portion. He discusses his technic for partial cystectomy as described by him in the *Annals of Surgery* in 1904

36 **Hematuria Complicating Appendicitis.**—Seelig reports three cases, all encountered in a short period of time, and all characterized by the facts, first, that they were wrongly diagnosed by the operating surgeon; second, that pain radiating from the kidney region and blood in the urine were prominent symptoms; and third, that the lesion was in the appendix. He discusses the cases and suggests the following classification Hematuria complicating appendicitis may be due to: 1 General systemic invasion resulting from acute appendicitis and affecting the kidney indirectly—so-called toxic nephritis 2 Involvement directly of one or more of the organs of the urinary tract—(a) kidney, as in Case 2 of this paper, (b) ureter, as in Case 3 of this paper: (c) bladder, as in the cases recorded by Odde and Silhol, Lancien and Brun

37 **Volkmann's Ischemic Paralysis.**—Taylor says that ischemic paralysis is essentially a myositis resulting from prolonged absence from the muscles of oxygenated blood The nerves are frequently involved It occurs commonly in the forearm after too tight dressings near the elbow, and usually in children from 3 to 12 years old. The symptoms are early onset of severe pain and swelling, simultaneous appearance of rigid contracture with paralysis, causing the characteristic claw hand. Severe cases may result from six hours of tight compression. Prophylaxis is most important: There should not be tight dressing on fractures especially near elbow, allowance should be made for traumatic reactionary swelling, there should be frequent inspection of dressings, and removal of dressings when lesions occur. Treatment is non-operative massage, electricity, vigorous passive motions, etc.: or operative lengthening of tendons of the shortened muscles or resection of both bones of forearm, enough to permit full extension of wrist and fingers. Damaged nerves should be properly cared for. Prognosis on the whole is unfavorable, complete cure is rare and improvement comes only after a long period of steady work

38 **Dislocation of Ulnar Nerve.**—Cobb describes cases of recurrent dislocation of the ulnar nerve of which the total number of reported cases is now 23. Operation has every chance of effecting a cure, but should never be undertaken for the nerve dislocation alone but only for severe and disabling symptoms The simple operation of replacing the nerve in its groove and covering it with a flap of fibrous tissue from the triceps fracture will be sufficient. Chiseling the bone or dissecting up periosteal flaps is unnecessary.

39 **Operative Treatment of Fractures of Femoral Shaft.**—The purpose of Huntington's paper is: 1. To determine finally, if possible, what shall be regarded as a satisfactory end result in fractures of the femoral shaft 2 To ascertain whether or not anatomic replacement and permanent fixation of fragments by operative interference, is justifiable from the standpoint of infection and of improved end results He discusses the stapling of fractures and arrives at the following conclusions

but the serum of Flexner not only makes a favorable impression, but is certainly a factor which can not be excluded from the therapy of cerebrospinal meningitis.

10. **Pneumonia at Panama.**—Deeks states that the mixed races showed poor resisting power in pneumonia. He discusses the characteristics of the disease as it showed itself on the Isthmus, and also the pathologic findings. In regard to treatment he points out particularly the misuse of quinin. In a district where malarial infection is almost universal, it is but natural to assume that quinin would be a *sine qua non* in the treatment of pneumonia patients. The direct opposite has been found to be the case. Its action is cumulative, depressing to the nerve centers and to the respiratory and circulating organs. It interferes with the development of leucocytosis by preventing the emigration of leucocytes from the blood, reduces the ozonizing powers of the erythrocytes and interferes with the elimination of waste products. From this he concludes that quinin in large doses in pneumonia is *contraindicated. The treatment practiced in Panama was supportive and eliminative, and its results were satisfactory.*

Boston Medical and Surgical Journal.

October 1.

14 *Acute Appendicitis in Children. B. Vincent, Boston.
15 *Mechanical Treatment of Diseases of the Circulatory System with Special Consideration of the Zander Methods. C. H. Bucholz, Boston.
16 Final Report on a Case of Adams-Stokes' Disease. H. F. Vickery, Boston.
17 *Measles *in utero*. N. R. Mason, Boston.

14. **Appendicitis in Children.** Vincent summarizes her paper as follows: Acute appendicitis is rare in infancy, but is more common in childhood than is generally supposed. An early diagnosis is difficult, and the first stages and lighter forms of the attack may be easily overlooked. The prognosis of the disease is more rapid in children than in adults; the involvement of the peritoneum and the appearance of pus are early features; diffuse peritonitis is probably more frequent, but there is still greater tendency to the formation of a localized abscess. A child is never so young and seldom so sick as to contraindicate surgical interference, but the extent of the operation must always be measured by the condition of each patient. Children stand short operations well, but may be needlessly lost through prolonged and ill-advised efforts to do more than is absolutely essential. The prognosis is more uncertain in children than in adults. Age is an important factor. In children over 10 years of age the prognosis is at least as good as in adults; in children under 5 it is worse, while in infants the prognosis is exceedingly grave.

15. **The Zander Method.**—Bucholz emphasizes the use of physical exercise in the treatment of internal diseases and points out that when Zander constructed his apparatus forty years ago he had in view the influencing of internal diseases—those of the circulatory system, as well as those of the locomotor system. Bucholz discusses the physiology of the effect of mechanical therapeutic methods on the blood pressure and velocity of the blood current. Ordinarily we can not remove the causes of various diseases of the circulatory system, but we can make the conditions for their functioning as favorable as possible. The two fundamental factors for this are rest and exercise; rest to prevent overuse of the organ, exercise to fit it to perform its work better. For instance, in treating a disturbance of cardiac compensation we apply rest to the heart by ordering rest in bed, withdrawals of fluids, etc. At the same time by giving digitalis, which augments the pulse volume of the heart and reduces the frequency of the beat, we give the organ exercise. Bucholz gives the outlines of the Zander apparatus and the method of their use.

17. **Measles in Utero.**—Mason describes a case in which a mother with typical measles gave birth to a child, delivery occurring during the period of desquamation. The infant showed a pigmentation all over the body and unmistakable desquamation. Mason asks whether the infant had measles or whether it was the normal desquamation of the new-born. He collates the literature on the subject of measles in the new-born.

Lancet-Clinic, Cincinnati.

September 26.

18 Dante: Physician (continued). A. G. Drury, Cincinnati.
19 Differential Diagnosis of Gallstones. C. W. Manss, Cincinnati.
20 Bismuth-Vaselin Paste Injections. H. H. Hines, Cincinnati.
21 Diarrhea. G. H. Jones, Toledo, Ohio.

Virginia Medical Semi-Monthly, Richmond.

September 11.

22 *The Voice as Affected by General Conditions. W. A Wells, Washington, D. C.
23 Artificial Feeding of Infants. G. A. Stover, South Boston, Va.
24 Treatment of Summer Diarrhea in Infants. M. Newton, Richmond.
25 Plea for More Exact Therapy. A. F. Kerr, Greensville, Va
26 Ileus. B. L. Hillsman, Richmond.
27 Dermoid Cyst Removed Without Interrupting Pregnancy. W. A. Strother, Bedford City, Va

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into a test tube. Prick the finger or ear, and allow one drop of blood to fall into a test tube. Shake and set aside for from 4 to 12 hours. This corresponds to a dilution of 1 to 50; 2 drops of blood would make a dilution of 1 to 25. One drop in 2 drams would equal 1 to 100. If the reaction is positive there will be seen in from 1 to 4 hours a flocculent precipitate settling in the tube. In from four to twelve hours this will settle to the bottom. No such precipitate occurs if reaction is negative. The reaction is perfectly easy to determine by a simple observation. It is convenient to carry a small test tube containing the proper amount of the emulsion and stoppered, when visiting suspected typhoid cases. One takes a specimen, leaves it, and reads the reaction the next visit, or one may carry it to one's office and read after the proper time has elapsed. Dried blood retains its agglutinin for many days, and if the physician has not the emulsion with him he can take a drop of blood on a piece of glass or crockery, allow it to dry and make the test at any convenient time afterward by dissolving the blood and proceeding as before described.

Northwestern Lancet, Minneapolis.

September 1.

55 *Milk—Clean or Unclean? M. H. Reynolds, St. Paul.
56 Diagnosis and Treatment of Foreign Bodies in the Eye. C. N. Spratt, Minneapolis.
57 Case of Ectopic Gestation in which was Employed a New Procedure Suitable for Cases in which the Fetus is Living. J. P. Dougherty, Wabasha, Minn.
58 Laparotomies During Pregnancy. C. J. Holman, Mankato.

55. **Milk.**—Reynolds offers a preliminary suggestion toward a revised system of milk inspection to the effect that the granting and maintenance of a license in the larger cities should depend more on laboratory examinations than at present. These examinations would cover not only butter fat by the Babcock test; chemical examination for preservative; specific gravity test, etc., as now done; but, in addition, would also include such of the following as experience might justify: bacteria count; microscopic examination for pus cells and fibrin, curd test, and perhaps chemical examination by some of the delicate bile reactions for evidence of manure contamination and similar impurities; and centrifuging with microscopic inoculation test of sediment. In other words, he would put up certain laboratory specifications to which milk must answer, and after reasonable warnings would revoke the license in case of failure to comply.

Kentucky Medical Journal, Bowling Green.

September.

59 *Management of Occiput Posterior Cases. H. E. Tuley, Louisville.
60 Delayed Union of Fractures. C. B. Johnson, Earlington.
61 Complications of Typhoid. H. L. Coke, Sutherland.
62 Pertussis. A. R. Kemptf, Ferguson.

59. **Occiput Posterior Presentations.**—Tuley analyzes thirty-eight cases, 13 of which were rotated by the fingers in the vagina and the delivery completed without assistance, and in eight cases it was necessary to use forceps to complete delivery after rotation. He describes the three methods of accomplishing rotation—by the fingers, by the hand in the vagina, and by forceps or vectis. His plea in the management of occiput posterior cases, is in all cases, but especially in delayed first stage, to make a positive diagnosis of the position of the child; if a posterior position is recognized, with the fingers still in the vagina, make an attempt at rotation of the occiput to the front, toward the side to which it already presents; if directly posterior, toward the side to which the back presents. This attempt at replacement should be between pains, the left hand being used in right occiput posterior, the right hand in left occiput posterior position. The replaced occiput should be held in its new position until a firm contraction causes further engagement. If the physician is unable to cause rotation by the fingers, the forceps should be used as a rotator, and if carefully used no harm can result.

Memphis Medical Monthly.

September.

63 Pernicious Malaria. W. H. Deaderick, Marianna, Ark.
64 *Amebiasis. J. L. Jelks, Memphis.
65 Importance of Light Percussion in Physical Diagnosis. B. W. Fontaine, Memphis.

64. **Amebiasis.**—Jelks describes the character and peculiarities of the ameba. For treatment he combines copper phenolsulphonate with the formalin solution, which, in addition to its parasitic effect, is also an astringent. He believes that an acid solution of formalin would be best in most cases, and that the ameba does not thrive in an acid medium. He has used boric acid with the formalin. He insists on two treatments daily, using from eight to sixteen quarts of the warm formalin boric solution through the recurrent tube at each seance.

Iowa Medical Journal, Des Moines.

September.

66 Materia Medica, Hygiene and State Medicine. B. L. Eiker, Leon.
67 *Dietetics as a Therapeutic Measure. C. S. Chase, Iowa City.
68 What Shall We Do with the Question of Animal Tuberculosis? J. W. Kime, Fort Dodge.
69 Conditions Influencing the Production of Sanitary Milk. J. H. McNeil, Ames.
70 Necessity of a Sanitary Milk Supply. L. E. Day, Washington, D. C.
71 *Brain Tumor. J. M. Walker, Dubuque.
72 Function of the County Medical Society. N. A. York, Lisbon.
73 My Experience with Contract Practice in Germany. J. Niemack, Charles City.
74 Case of Aneurism of Abdominal Aorta. M. W. Emmett, Atlantic.

67. **Diabetics.**—Chase argues that as the observed action of drugs on inferior animals has led to rational therapeutics based on pharmaco-dynamics, so the observed action of foods on superior animals should lead to rational dietetics. He gives instances of the way that the dietetic pendulum swings strongly from one end of the arc to the other, particularly in typhoid fever. He discusses dietetics, and looks forward to the time when dietetics shall stand on an equal footing with pharmacology, and no physician's education shall be considered complete who has not mastered it.

71. **Brain Tumor.**—Walker discusses tumors of the brain, especially in relation to their localization therein, and considers the question of operative intervention. If the tumor can be located and is removable, he asserts that we may expect entire recovery; if the tumor is malignant or is nonaccessible the palliative operation not only gives relief from the vomiting and headache, but in many cases prolongs life indefinitely and relieves the optic neuritis which otherwise would end in total blindness. The result of the work by Spiller, Frazier, Starr, Lezinsky, Macewen, Park and others, is so flattering that we are warranted in almost every case of suspected brain tumor in advising operation at once. Hence, the importance to the general practitioner of being able to make an early and correct diagnosis must be obvious.

Northwest Medicine, Seattle.

September.

75 *Surgery of the Thyroid with Special Reference to the Psychic Factor in Exophthalmic Goiter. G. W. Crile, Cleveland.
76 Acute Gastric Dilatation. C. A. Smith, Seattle.
77 Exploratory Incision. R. J. James, Seattle.

75. A similar article (practically identical) was published in *Annals of Surgery*, June, 1908, and abstracted in THE JOURNAL, June 27, 1908, p. 2150.

Montreal Medical Journal.

September.

78 *Three Hundred and Twenty-five Cases of Scarlet Fever. J. McCrae, Montreal.
79 *Surgical Rights of the Public. J. C. Munro, Boston.
80 Treatment of Cerebrospinal Meningitis by Flexner's Serum. F. G. Finley and P. G. White, Montreal.

78. **Scarlet Fever.**—McCrae discusses fully the mode of infection and the complicating diseases, as shown in the first series in the wards of the Alexandra Hospital, Montreal. They number 325 cases, with 23 deaths. He lays down as the important things in scarlet fever the following points: Make the diagnosis at the earliest possible moment. Look at the skin, all of it, with the patient completely stripped, if a child. Look at the throat, especially the palate, and the tongue, especially the papillæ. If you have made the diagnosis, do not later, for a moment, even mentally go back on it. Lay down the law as to treatment, twenty-one days' milk diet and twenty-one days' bed. When you are tempted to weaken or to recede from this position, just think how

when the patient dies of nephritis, they will say. "Dr. Blank was not very strict when he had scarlet fever."

79. This article appeared in the *Boston Medical and Surgical Journal*, August 20, and was abstracted in THE JOURNAL, September 5, page 864.

Therapeutic Gazette, Detroit.

September.

81 *Psychotherapy. A. L. Benedict, Buffalo, N. Y.
82 *Status of the Ocular Reaction to Tuberculin. L. F. Appleman, Philadelphia.
83 *Twelve Cases of Pertussis Treated with the Abdominal Binder. P. B. Cassidy, Philadelphia.
84 Treatment of Chronic Constipation. B. K. Ellis, Greeley, Col.
85 Remedial Measures Other Than Drugs in Cardiac Disease H. A. Hare, Philadelphia.

81. **Psychotherapy.**—Benedict. in discussing the various forms and grades of psychotherapy, insists that it is a very dangerous weapon in the hands of anyone but a conscientious. hard-headed, well-trained physician. He considers the Emmanuel Church movement especially dangerous, because of the eminent respectability and intelligence, in non-medical matters, of its advocates. He says: "We need not discuss whether the hypnotizer exercises a special extrinsic influence over the subject, or whether all hypnotic suggestion is intrinsic in the strict scientific sense. Practically, some persons can hypnotize better than others, and the victim is virtually under the control of another will." He says that the very class of cases to which religious influence and lay psychotherapy are best adapted lie dangerously close to the border of insanity, and in any large series of such cases it seems probable that the most insidious forms of insanity and those connected with sexual and criminal tendencies will occur with frequency enough to make one shudder at the possibilities.

82. **Tuberculin Ocular Reaction.**—Appleman discusses the literature of the subject and states that the results of investigations as to the value of the ocular reaction are not yet considered final, although they are in the main favorable. In this country the difficulty in securing results is in part due to the failure to obtain a tuberculin which may be considered of standard uniform strength, and until this has been done there must of necessity be more or less variability in the conclusions of various observers.

83. **Treatment of Pertussis.**—Cassidy supplements with his own experience the report of T. W. Kilmer (THE JOURNAL, Nov. 23, 1907) as to the good results of the abdominal binder. He believes it to be of very great help in pertussis, in shortening the length of time of the disease, checking the vomiting, and reducing the numbr and severity of the attacks. He believes that the earlier the binder is applied, the better; and that in infants especially the results are wonderful.

Archives of Pediatrics, New York.

September.

86 *Modern Laboratory Feeding and the Wide Range of Resources which It Provides. T. M. Rotch, Boston.
87 *Diabetes in Infants and Young Children. H. B. Wilcox, New York.
88 Rheumatic Affections in Children. F. L. Wachenheim, New York.
89 Imperforate Anus, with a Report of a Case in which the Rectum Communicated with the Prostatic Urethra. E B Hodge, Philadelphia.

86. Abstracted in THE JOURNAL, July 18, 1908, p. 246.

87. **Diabetes in Children.**—Wilcox emphasizes the frequency, and almost invariably fatal outcome, of diabetes in infants and young children. Because of our belief in its rarity, or our liability to omit that important part of every physical examination, the complete uranalysis, each of us may have had the care of unsuspected cases of this disease. In the light of the literature he discusses the frequency. age, sex, etiology and glucose capacity. He says: That there exists, in all these cases of infantile diabetes, a condition at birth predisposing to a breakdown in the glycogenic function is probable. It is doubtful, however, that the disease is, strictly speaking, congenital, our only definite pathologic evidence being that the changes noted in the pancreas are as often of the nature of a compensatory hypertrophy as of a structural or secretory deficiency originating in utero. He further adds: "Of more value, however, than experiments and theories which we have cited to show that the child can withstand relatively a little more sugar at one dose than the adult, that he has to do considerably more starch digesting to supply his body needs, and that for this he is equipped at birth with all the active liver cells that he is ever going to have and a bigger percentage of liver substance, is the practical experience of each one of us that overstrain of any sort is more easily produced in early life, when none of the bodily functions have the resistance to external diversion from the normal which exists at maturity. Bearing both in mind, it seems reasonable to correlate the well-known abuse by many children of all forms of sugar with the appearance of diabetes among them. The symptoms in youth offer no peculiarities. Wilcox discusses the urine and the blood, and as regards duration says that in general the younger the child the shorter the duration of the illness. The diabetic condition is often interrupted by a latent period during which there is a suspension of all active symptoms, the patient appearing to be in perfect health or suffering only from a mild nutritional disturbance. The most frequent complications are tuberculosis, boils, pruritus and gangrene. The pathologic findings in children differ in no way from those in adults.

In the treatment of diabetes the aim of the physician is: 1. To maintain the bodily nutrition at its highest level by general régime and feeding. 2. To keep the excretion of glucose in the urine as low as possible. 3. To keep the urine free from acids. For the proper care of diabetes the following are necessary: 1. The determination of the type of case with which we are dealing; that is, the inquiry into whether we are to handle simply a carbohydrate incapacity or also a deficiency in fat oxidation, as shown by acidosis. 2. The discovery of that particular form of carbohydrate which will be best borne by the patient. 3. A clear method, preferably graphic, of recording data by which exact information can be had of, and comparison made between, the following points: (a) The patient's weight. (b) The amount of urine passed in twenty-four hours, and its specific gravity. (c) The amount of sugar excretion. (d) The quantity of acids present in the urine.

The child should awake and have the first meal in bed, at a fixed time. He should remain in bed till mid-morning, and then be allowed to be up and out until the hour for the noon meal, after which he should be well wrapped and made to rest quietly in the open air for at least two hours. He may then be given mild exercise, walking or driving if in good condition, or massage if passive exercise is better borne. Supper should be not later than 6 p. m. and bed at 7. The sleeping room should be ventilated as for a tuberculosis case. As much care must be taken to guard against waste of nervous energy and overtaxation of the heat centers from over or under the clothing, and to provide proper fresh air at all times, as is used in regulating the diet. The patient should be put on a standard diet, suited to his age and condition. and as free as possible from carbohydrate. Then a supplementary diet consisting principally of that carbohydrate found to be best borne, together with the other allowable starches and sugars, should be held in reserve, from which is added more or less according to the varying carbohydrate tolerance shown. The most reliable sign that more sugar is needed is the presence of diacetic acid, as shown by the ferric chlorid reaction. If in spite of all effort, the condition of acidosis supervenes, the administration of alkalies is indicated. Sodium bicarbonate is to be given; by mouth in the usual case, intravenously in the event of coma. The amount of the drug necessary depends on the amount of the ammonia output in the urine.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

September.

90 Posterior Column Degenerations Following Injury to the Posterior Roots of the Seventh Cervical Nerves. H. W. Mitchell, Danvers, Pa
91 *Osseous Plaques of the Pia Arachnoid and Their Relation to Pain in Acromegaly. S. Leopold, Philadelphia.

91. **Osseous Plaques and Acromegaly.**—Leopold summarizes his paper as follows:

1. Osseous plaques are frequently present in the pia arachnoid.
2. They are found in many diseases, such as *uremia*, tuberculosis, and retrogressive conditions

3. Arteriosclerosis seems to be the underlying factor in their causation.

4. The presence of these plaques on the spinal pia in acromegaly does not explain the production of pain in that disease.

5. There is no definite pathology of the spinal cord in acromegaly.

Journal of Advanced Therapeutics, Rahway, N. J.

September.

92 Indications for the Use of the Sphygmomanometer. F. H. Humphris, Honolulu.
93 Cancer and Its Treatment by Cataphoric Sterilization. G. B. Massey, Philadelphia.
94 *Is Radiography in Colors Possible? J. Rudis-Jicinsky, Cedar Rapids, Ia.

94. **Radiography in Colors.**—Rudis-Jicinsky has made experiments with the Lumière autocrome plates with a view to ascertaining whether colored photography can be applied to the Roentgen picture. He describes the method used, and the results, and characterizes the procedure as simple. He says that it is to be hoped that in the near future we shall be able, with the use of oxychlorid of bismuth photographs, to show not only the size and form of the stomach, but any condition in which there is marked congestion, pus in the cavities, or some destructive process, especially in the lungs and other organs in natural colors—colors as of life, affording opportunities for the study of comparative anatomy and other scientific questions concerning human life.

Journal of the Tennessee State Medical Association, Nashville.

September.

95 Herniotomy. G. R. West, Chattanooga.
96 Conservative Surgery in Crushing Injuries. J. L. Crook, Jackson.
97 *Significance of Uterine Hemorrhage. L. E. Burch, Nashville.
98 Purulent Ophthalmia—Pathology and Treatment. M. M. Cullom, Nashville.
99 Ethics. J. M. Kennedy, Knoxville.

97. Abstracted in THE JOURNAL, May 2, 1908, p. 1453.

West Virginia Medical Journal, Wheeling.

September.

100 Function of the Internal Secretions. J. N. Simpson, Morgantown.
101 Medical Profession Losing Faith in Alcohol. A. S. Grimm, St. Mary's.
102 Diabetes Mellitus. A. J. Kemper, West Milford.
103 *Translocation of Testicles. W. W. Golden, Elkins.

103. Abstracted in THE JOURNAL, June 6, 1908, p. 1934.

American Practitioner and News, Louisville.

September.

104 Corrigan's Disease. M. St. John, Bristol, Tenn.
105 The Ileocolic Arches. B. Robinson, Chicago.
106 Prophylaxis and Diet in Typhoid. A. E. Gardner, Louisville.

Providence Medical Journal.

September.

107 Perforation of the Cecum Following Delivery. C. O. Cooke, Providence.

Ohio State Medical Journal, Cincinnati.

September.

108 Certified Milk. J. J. Thomas, Cleveland.
109 When to Operate for Appendicitis. E. C. Brush, Cincinnati.
110 Venereal Prophylaxis and Functional Genitourinary Diseases. E. O. Smith, Cincinnati.
111 Expert Testimony and Medical Jurisprudence as Relating to the Eye, Ear, Nose and Throat. S. N. Jones, Cincinnati.
112 The Professional Anesthetist and Anesthesia. M. Metzenbaum, Cleveland.
113 History and Administration of Anesthetic Drugs. R. A. Rice, Columbus.
114 Cystic Tumors of the Pancreas. J. F. Baldwin, Columbus.

Cleveland Medical Journal.

September.

115 Ancient Surgery. C. W. Wycoff.
116 Two Cases of Ectopic Gestation. H. Robb, Cleveland.
117 Intussusception of the Jejunum. W. E. Lower, Cleveland.
118 Hip Disease. H. O. Feiss, Cleveland.

Dominion Medical Monthly, Toronto.

September.

119 Medical Inspection of Schools. H. MacMurchy, Toronto.
120 Medical Thoughts, Fads, Facts and Fancies. J. S. Sprague, Stirling, Ont.
121 Treatment for Sprained Ankle. J. Sheahan, St. Catherines.
122 Lateral Sinus Thrombosis and Cerebellar Abscess. J. P. Morton, Hamilton, Ont.

Louisville Monthly Journal of Medicine and Surgery.

September.

123 Practice of Medicine. D. S. Wilson, Louisville.
124 Abdominal Pregnancy. C. W. Hibbitt, Louisville.
125 Extracts from the War Correspondence of the Late Dr. James M. Holloway. A. H. Rice, Louisville.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

September 19.

1 *Hernia through the Semilunar Line, and Direct Inguinal Hernia. H. B. Robinson.
2 *Case of Acute Appendicitis. H. Hawkins and E. M. Corner.
3 Operation for Absence of the Rectum. W. S. McCune.
4 Perforated Gastric Ulcer: Operation 44 Hours After Perforation. Recovery. A. C. Roper.
5 *Experimental Production and Control of the Vascular Atony of Surgical Shock. P. L. Mummery and W. L. Symes.
6 *Treatment of Uterine Displacements. G. E. Herman.
7 *Influence of the Suprarenal Glands on the Bony Skeleton in Relation to Osteomalacia and Rickets. L. M. Bossi.
8 Displacement of the Ureter in Certain Pelvic Tumors. C. Lockyear.
9 Cesarean Section versus Other Methods of Delivery in Contracted Pelvis. R. Jardine.
10 Subcutaneous Symphyseotomy and Extraperitoneal Cesarean Section. Prof. Zweifel.
11 Scopolamin-Morphin Narcosis in Labor. Prof. Krönig.
12 Use of Hyoscin-Morphin Anesthesia in Natural Labor. R. C. Buist.
13 *Scopolamin-Morphin and Chloroform Anesthesia. H. MacNaughton-Jones.
14 Dermoid Cyst of the Jejunal Mesentery. W. B. Bell and J. B. Yeoman.
15 Case of Missed Labor. A. Dempsey.
16 *Treatment of Eclampsia by Veratrum Viride. L. Mangiagalli.
17 Treatment of the Habitual Drunkard (Legislative and Otherwise). T. C. Shaw.
18 The Inebriate's Acts. C. T. Scott.
19 Hospital Treatment in Incipient Insanity. B. Pierce.
20 Mental Out-Patient Department. G. E. Mould.
21 School Life from the Point of View of Psychologic Medicine. F. Warner.
22 True and Presenile Melancholia at the Female Climacteric. L. D. H. Baugh.
23 Statistical Points in the Study of the Inheritance of Insanity. W. P. Elderton.
24 *Psychology of Neurasthenia and Hysteria. A. T. Schofield.
25 Asylum Dysentery and Ulcerative Colitis. F. G. Bushnell.

1. **Hernia.**—Robinson discusses hernia through the semilunar line above the level of the inguinal canal: also direct inguinal hernia, which, though usually considered as related to the ordinary oblique hernia, is really of another type, being also a hernia in the semilunar line only below the level of the deep epigastric artery. Strictly speaking, it should be regarded as ventral rather than inguinal.

2. **Appendicitis.**—Hawkins and Corner describe a rapid case of gangrene of the appendix with a high degree of toxicity, recovery being due in the first place to the prompt removal of the appendix as early as eight hours after the acute onset. No further trouble arose from peritoneal infection, but infection of subperitoneal tissue set in (properitoneal cellulitis), which resulted in extensive sloughing of the abdominal muscles of the right side of the abdomen, a severe toxic condition, and a long illness of more than two months of a dangerous state, with a tedious convalescence. The organisms present were the colon bacillus and the *Streptococcus fæcalis*. A double vaccine treatment was used successfully.

5. **Surgical Shock.**—Mummery and Symes summarize their report to the British Medical Association as follows: In fully anesthetized animals manipulations of abdominal viscera are more productive of shock than those of gross injuries. Such manipulations produce shock rapidly when they implicate the parietal peritoneum, the peritoneal ligaments, or the mesenteries. Shock is more readily produced under chloroform than under ether. In severe shock, hypodermic injections are but slowly, if at all, absorbed into the blood stream. In severe shock, intravenous injections of adrenin and of extract of the posterior lobe of the pituitary body, raise arterial pressure to a greater extent than in the normal state. A single injection of the latter influences arterial tone for over an hour without producing abnormally high arterial pressure. This influence is sufficient to enable considerable recovery from shock, and does not interfere with subsequent injection of adrenin, if that be desirable.

6. **Uterine Displacements.**—Herman thinks the following statement in harmony with experience: Keeping up the uterus by a mechanical support in the vagina, is harmless and generally effective, but there are cases in which it fails, and if the patient is to be cured she must be treated in some other

way. He then discusses the various operative measures, including the injection of the *pelvic floor with paraffin*. He is not favorably impressed with this last method In nine cases out of ten the shape of the uterus is unimportant. The thing required is to support the uterus *in its function* of the central point of the pelvic floor. Permanent relief can be given by combining ventral fixation with colporrhaphy. The essential points in his operation are: 1, *That the peritoneal* covering of the uterus should be stitched to the muscles of the abdominal wall, not to the peritoneal wall; 2, the surface brought into contact should not be *a* large one *He points* out that in 95 per cent. of the published cases there has been no difficulty in delivery in subsequent pregnancy. He thinks that to attach the uterus by a *surface of an inch transversely* and half an inch from before backward is enough, and that the best place to sew it to is the place opposite which it comes if pulled up in the axis of the pelvic inlet. To pull it up to the umbilicus is to put additional strain on the stitches, and to stitch the uterus close to the top of the symphysis he believes would interfere with the bladder and with delivery in case of labor. Though he thinks the dangers of ventral fixation greatly exaggerated, it should rarely be advised for women young enough to make subsequent pregnancy probable Ventral fixation will not cure the patient unless extensive colporrhaphy is done also. In a patient in whom pregnancy is probable, who suffers from a prolapse, who does not like a support with straps outside, and yet can not retain a vaginal pessary, an extension of the perineum forward, by raising flaps of skin and mucous membrane but not cutting away anything, will enable the patient to retain a vaginal pessary, and yet will not, in the event of pregnancy occurring, expose her to greater risk of laceration than occurs in most primiparæ. Extirpation of the uterus has been performed and recommended as a radical treatment. If the uterus is taken out, of course it can not come down. But the vagina comes down; the patient still has a protrusion; the only difference is that at the bottom of the inverted vagina there is a scar instead of the uterus. The only effective treatment of this kind is removal of the uterus and vagina. This is a simple operation, and its immediate result is entirely satisfactory. But its applicability is limited to elderly widows

7. **Suprarenal Gland in Osteomalacia.**—Bossi believes that in the administration of extract of suprarenal gland a method has been discovered that will abolish the Cesarean operation for osteomalacia. He also thinks there is evidence that insufficiency in the function of the suprarenal glands must be the cause, or a factor in the causation, of osteomalacia; and that the suprarenal glands exercise an important influence on the ossification of the skeleton—a fact previously unknown, but which Bossi considers he has proved by radiographs on human patients and on sheep.

13. **Scopolamin Morphin and Chloroform Anesthesia.**—MacNaughton-Jones, as a result of 28 cases of celiotomy and other operations, approves this anesthesia for the quiet and tranquil state of the patient, the quickness with which she goes under chloroform, and the satisfactory condition during operation The postoperative results are, as a rule, better, and he has had no disagreeable postoperative effects He quotes the opinions of his anesthetists, Dr. Dudley Buxton, Mr. Scharlieb and Mr Bakewell, in support of his position.

16. **Eclampsia.**—Mangiagalli discusses the results of his observation in the first 100 cases of eclampsia treated with veratrum viride, from 1897 to the end of 1907, successively in the clinic of Pavia, the old maternity of Milan, and the new obstetric and gynecologic clinic of Milan. He concludes that while it is impossible to find an explanation at present of the fact, it must be affirmed that veratrum viride is efficacious in the treatment of the eclamptic convulsion, and that most probably such efficacy is in relation with its hypotensive action. He does not, however, regard veratrum viride as a remedy for the eclampsia itself, only for its most violent manifestations.

24. **Neurasthenia and Hysteria.**—Schofield regards the psychologic distinction between neurasthenia and hysteria as profound. In neurasthenia we get an exhaustion or poisoning of the higher cerebral or spinal nerve centers In hysteria there is no question of exhaustion, but *there is aberration* and morbid action of that part of the unconscious mind (vis medicatrix Naturæ) which presides over the functions and nutrition of the body, and which produces in hysteria, unconsciously and against the patient's will, morbid phenomena which the mind consciously is wholly unable to produce, even if it wished—such as, for instance, reversed peristalsis, high temperature local tumors, etc. Hysteria is thus parallel to insanity though quite distinct from it, the radical difference being that the sphere of the former is the unconscious mind and that of the latter the conscious mind.

Lancet, London.

September 19

26 *Cerebral and Ocular Complications of Anemia and Their Probable Relationship to Thrombosis C O Hawthorne
27 *Medical Aspect of Gastroenterostomy, Based on 128 Operations at the Manchester Royal Infirmary E B Leech
28 Case of Traumatic Subdural Hematoma Trephined Three Months After Injury G H Hume
29 Case of Sleeping Sickness Treated with Atoxyl Apparent Recovery T. A Johnston
30 Unusual Type of Leukemia Complicated by Synovitis in a Youth, with Ichthyosis R Waterhouse
31 Severe *Vertigo and Tinnitus; Destruction* of the Labyrinth Cure M Yearsley
32 Two Cases of Pneumothorax J P Milton
33 *Prevention of Deaths Under Anesthetics F W Hewitt
34 Case of Fracture of the Ribs Rupture of the Lung and Pneumohemothorax M C DeGaris
35 *Pathogenesis of Tabes Dorsalis T A Williams
36 *Modification of the Romanowsky Stain* F H Joseph

26. **Cerebral and Ocular Complications of Anemia.**—Hawthorne suggests that not only certain acute and serious complications but also a number of comparatively minor disturbances, *occasionally observed in anemic women,* owe their *origin* to intravascular blood clotting Probably the most frequent and obvious exhibition of thrombosis in anemia is encountered in the large veins of the lower limbs The next situation of anemic thrombosis is the intracranial veins and sinuses On this latter condition he remarks that, as the obstructing clot and its consequences may in a clinical sense entirely disappear the fact of complete recovery from an acute cerebral attack can not be successfully quoted against a diagnosis of intracranial thrombosis as the cause of such an attack He further remarks, in connection with severe or fatal cerebral attacks occurring in anemic women, *that such cases may include* among their symptoms the presence of double optic neuritis, and if these symptoms are due to thrombosis in the venous *channels of the skull, the conclusion seems* inevitable that such thrombosis is an efficient cause of double optic neuritis He affirms, therefore, that: 1, intracranial sinus and venous thromboses are the cause of the more or less severe attacks which occasionally complicate the course of chlorosis, and, 2, that such thromboses may include among their consequences both double optic neuritis and ocular or other limited palsies He discusses this proposition at great length Other effects of anemic thrombosis are certain disturbances of *the* visual fields, retinal embolism, and lastly, as an occasional complication in anemia and possibly due to thrombosis, may be mentioned retrobulbar neuritis He concludes his paper as follows: In the practical sphere, the suggestion that optic neuritis, ocular paralysis, hemianopsia or other abnormalities of the visual field, retinal embolism and retrobulbar neuritis occurring in anemic patients are probably due to thrombosis is significant, because on such interpretation any one or *more* of these events appearing in an individual case must be accepted as the sign of a tendency to thrombosis in an unusually marked degree, and must, therefore, claim the *prompt* application of the therapeutic measures which such a conclusion demands

27 **Gastroenterostomy.**—Leech asks Which are the cases of gastric trouble that the practitioner or physician should send to the surgeon for gastroenterostomy? He refers to suitability for operation, not to the question of how best to perform it He has been able to trace by letters and personal visits each of the 128 cases of gastroenterostomy *performed* at the Manchester Royal Infirmary before the middle of 1907 Of these 128 operations 79 were for non malignant conditions

46 for malignant and 3 were excluded because in 2 the question of malignancy has not been settled, and in a third, in which the patient was supposed to have acute gastric trouble, the acute attack was really an incipient pneumonia. From the figures of his cases Leech draws the following conclusions: In malignant cases, any operation which has a mortality of 46 per cent. within two months, as gastroenterostomy in the present figures shows, requires justification, especially as, if successful, the pain is almost certain to recur and may be no less severe though deferred. On the other hand, in carcinoma of the pylorus, vomiting is frequently as distressing as the pain. The latter can be kept under with morphin; we have no specific drug to combat the former. Leech has no doubt that gastroenterostomy in many instances relieves the vomiting even though it does not cure the pain. Taking these points into consideration, he would recommend that this operation should not be entertained in non-obstructive growths of the stomach, and that in obstructive cases the decision should be left largely to the patient, without persuasion and with a definite statement of the risk. In early cases only, especially when there is a doubt as to the malignancy, can he recommend that operation should in any way be pressed. Some of the most successful non-malignant cases have been operated on with the idea that there was carcinoma. In non-malignant cases gastroenterostomy is an operation which may have unusually good results. Patients whose lives have been a misery to themselves and to their friends may enjoy ease which they never thought possible, and from being confirmed invalids may be able to do a full day's work. When this is the case, any operation is worth consideration, even if the risk is great. Leech discusses also which cases are mechanically suitable, and how soon in the illness the operation should be done. He has no doubt that when there is obstruction at the pylorus, due to chronic gastric ulcer, gastroenterostomy should be performed, but he does not believe that pyloric obstruction is an essential in a case in which gastroenterostomy may give relief. He therefore recommends that the operation be performed as soon as it becomes evident by repeated relapses that the ulcer will be permanent.

33. **Deaths Under Anesthesia.**—Hewitt urges that for the public protection the administration of anesthetics must be placed on a very different basis from that which at present exists. He emphasizes the urgent necessity for higher education and skill among those to whom the important duty is entrusted of maintaining adequate anesthesia for surgical operations. The first reform should be to make it a penal offense for anyone but a legally qualified medical practitioner to administer an anesthetic. The second should be to improve and extend the anesthetic departments of our hospitals by appointing experienced men of the highest professional and academic attainments to the various offices of such departments, so that all anesthetics shall be administered or supervised by such officers, and the subject be properly taught to students. The third should be to make a thorough course of instruction in anesthetics a necessary part of the medical education of every legally qualified medical practitioner, so that, before administering anesthetics on his own responsibility, he would have administered a large number under the supervision of a competent teacher. There is ample material, not only in our general but in our special hospitals, for the most thorough practical instruction of all our medical students. The fourth reform needed is the registration by all hospitals of all anesthetics administered, so that it may be possible, at all events as regards such institutions, to ascertain the death rates of the different agents employed, and to watch the effects of any reforms that may be introduced.

35. Published in the *Virginia Medical Semi-Monthly*, June 12, 1908, and abstracted in THE JOURNAL, Aug. 1, 1908, p. 440.

Medical Press and Circular London,

September 16.

37 *Direct and Internal Splintage by Operation in Fractures of the Forearm Bones. E. M. Corner.
38 Medical Inspection of Schools. H. M. Richards.
39 Action of Hemostatics in Tuberculous Hemoptysis. M. L. Guinard.
40 Clinical Pathology of Aural Discharges. W. Wingrave.

37. **Internal Splintage.**—Corner discusses the application of internal splints to the bone, and suggests the class of cases in which this method is most likely to be required. It is of especial value in fractures of the forearm. It allows of correct union taking place between the fragments, while, with massage and movements, free mobility of the joints can be secured. Inasmuch as a man's or a woman's skill in work depends largely on the power and extent of rotatory movements of the forearm, this method, by preventing deformity, is of the utmost service. Corner reports four cases and suggests that the use of internal splintage will be particularly required in some cases for the ulnarward deformity after fracture of both bones, in some cases of the children of the poor, in some working women and skilled workers, in some cases of impacted Colles' fracture, and in some cases in which the fracture of the radius is below the insertion of the pronator radii teres muscle.

Clinical Journal, London.

September 16.

41 Gastric Ulcer. W. P. Herringham.
42 *Atheroma and Arteriosclerosis. G. Oliver.

42. **Atheroma and Arteriosclerosis.**—Oliver sums up his observations, which began in the preceding issue, with the following conclusions as to the etiologic factors of arteriosclerosis:

1. It is misleading to attempt to refer arteriosclerosis to any one cause in all cases.
2. The causes are, as a rule, multiple, though a certain cause, or more than one cause, may be predominant in individual cases.
3. The leading causes are: (a) persistent supernormal arterial pressure, however induced; and (b) toxins of various kinds, either generated within the body (endogenetic) or introduced from without (exogenetic).
4. In addition to these determining causes there are certain predisposing factors, such as heredity and trophic proclivities.

Glasgow Medical Journal.

September.

43 *Chauffeur's Fracture. Sir G. T. Beatson.
44 *Obstetric Diary of William Hunter. J. N. Stark.
45 Vascular System and the Fibromyomata. S. J. M. Cameron.
46 The Serum Treatment of Infectious Diseases in the Practice of the City of Glasgow Fever and Smallpox Hospitals. J. Brownlee.
47 Agglutination Reactions. A. Love.
48 Infant Mortality. H. E. Jones.

43. **Chauffeur's Fracture.**—Beatson describes a fracture of the lower end of the radius known as chauffeur's fracture, which, he says, happens only at the starting of a petrol motor car. He describes the mechanism of the machine and points out that to set in action the series of explosions that furnish the motor power of the car, the mechanism is first started mechanically by means of a handle attached to the crank shaft of the engine. When this handle is turned, the piston goes through all the four strokes (suction, compression, explosion and exhaust), including the ignition of the compressed, explosive mixture. This explosion takes place just as the third downward stroke is begun, with the result that after a couple or more complete revolutions of the handle the engine goes on working automatically, and the working handle is removed. It is the handle that is the active agent in causing the chauffeur's fracture, and it may do so under different conditions. In the first place, the fracture may happen at the removal of the handle, for if at this time the chauffeur is leaning too much weight on it, or is holding it with the thumb round it, he may not be able to disengage it, with the result that his hand will be carried round with the revolving handle and severely twisted backward by the rotary movement. Another time at which the fracture may occur is during the working of the handle, which is not an easy matter, especially in the upward strokes which compress the explosive mixture. Lastly, the flying back of the handle may be due to a third cause, viz., a "backfire," which means that the explosion in the cylinder has been ignited too soon. The seat of fracture is the lower end of the radius. Its line is transverse and fairly regular, and it carries off the whole articular surface of the bone. In neither of the cases under Beatson's care was the characteristic deformity that marks Colles' fracture present. A consideration of the conditions under which the accident happened shows the following common feature—they twist backward or overextend the

—While it has a certain amount of outward rotation or ulnar deflexion. Beatson discusses the relation between this fracture and that of Colles, and considers it to be really a Colles' fracture. He proposes the reclassifying of Colles' fracture into two divisions: those with and those without the usual deformity, the latter being due to falls on the palm of the hand when it has an ulnar deflexion, and the former arising from direct falls on the carpus, the propulsive force being transmitted directly to the radius and not only causing the fracture, but afterward inducing the characteristic deformity. Beatson believes many so-called sprains of the wrist, so diagnosed because of the absence of deformity, to be really Colles' fracture. Chauffeur's fracture can be largely avoided by grasping the handle with the knuckles down and with the thumb placed over it, in which position the handle is easily released if a back-fire should occur.

44. **Diary of William Hunter.**—Stark commences the publication of a transcript of the diary written by William Hunter during his attendance at the first three accouchements of Queen Charlotte, wife of George III. Of this diary Stark remarks: "It is rarely that we have an opportunity, either of reading a medical journal of such a character, or of getting beneath the trappings and outward show of royalty—all the more interesting in this instance because, while of the olden times, it is yet comparatively near our own days—and of viewing at close quarters that artificially created product of society in its personal and domestic aspects."

[illegible]al of Laryngology, Rhinology and Otology, London.

September.

[illegible] Actual Results of Esophagoscopy: (1) Extraction of Several Foreign Bodies of Irregular Shape (Dental Plates); (2) Spasm of the Cardia (Cardiospasm) of Severe Nature (Diagnosis and Treatment). Dr. Guisez.
50 Laryngostomy and Tracheolaryngostomy in Cure of Severe Chronic Stenosis of Larynx or Trachea, Especially When Cicatricial. Drs. Sargnon and Barlatier.

Presse Médicale, Paris.

September 5, XVI, No. 72, pp. 569-576.

51 *Uncontrollable Vomiting of Pregnancy. (Séméiologie des vomissements incoercibles de la grossesse.) E. Bonnaire.

September 9, No. 73, pp. 577-584.

52 Hemoglobinuric Bilious Fever and Its Treatment with *Aphloia theæformis*. Fontoynont.
53 *Hemophilic Affections of the Joints. (Hémophilie articulaire.) P. Cruet.

September 12, No. 74, pp. 585-592.

54 Torticollis from Inflammatory Retraction of the Sternocleidomastoid Muscle. A. Broca.
55 Paralytic Accidents During Pasteur Treatment. (Accidents paralytiques au cours du traitement antirabique.) P. Remlinger.

51. **Symptomatology of Uncontrollable Vomiting of Pregnancy.**—Bonnaire has encountered 30 cases of uncontrollable vomiting in 20,000 lying-in women in the last seven years, at the Lariboisière Maternity. He remarks that this condition seems to average about 0.1 per cent. in maternities. He gives the metabolic findings in a large number with careful study of the symptomatology. Instead of the normal average of chlorids in the urine, he found less than 1 gm. to the liter in 9 cases; between 1 and 2 gm. in 3, and a little over 2 gm. in 7. Abortion had to be induced for one patient who had only 0.12 chlorids to the liter. Out of 15 women entering with pulse 100 or above, one aborted spontaneously and 3 required interruption of the pregnancy. Constipation was the rule; one patient declared her bowels had not moved for a month. One patient was being prepared for abortion; intense jaundice was the only alarming symptom, when she became suddenly delirious and succumbed after twelve hours of this brain phase of the trouble.

53. **Hemophilic Joint Affections.**—Cruet discusses the various forms and the grave outlook both when the arthropathy is spontaneous or the result of a long walk or slight trauma, and when it follows a severe injury.

Revue de Chirurgie, Paris.

September 10, XXVIII, No. 9, pp. 341-464.

56 The So-Called Branchiogenic Multilocular Cysts of the Neck. (Les prétendus kystes branchiogènes multiloculaires du cou.) E. Estor and G. Massabuau.
57 Case of Apparently Spontaneous Gangrene of the Rectum. M. Guibé.
58 *Primary Tuberculosis in a Hernia. (Tuberculose herniaire primitive à forme sacculaire.) O. Jacob and L. Trénel.

58. **Primary Tuberculosis in Hernial Sac.**—Jacob and Trénel describe a case in a young, previously healthy, soldier with left inguinal hernia of recent date, which rapidly increased in size. The sac was resected and a small cyst was found in it, which proved to be an almost healed tuberculous process, comparable to a fibrous subpleural tubercle. He reviews the literature on the subject, having found records of ten other cases of primary tuberculosis in a hernial sac. In the case here reported the process had been entirely latent and free from pain. The only warning sign was the rapid increase of the size of the hernia. No larger than a nut at first, in four months it developed rapidly in size and gradually descended into the scrotum, but never caused pain or colic. The painful form is more common, traction from adhesions causing pain.

Semaine Médicale, Paris.

September 14, XXVIII, No. 38, pp. 445-456.

59 *Insufflation of Air in Treatment of Pleural Effusion. C. Achard.

59. **Insufflation of Air in Treatment of Pleural Effusion.**—Achard confirms the efficacy of insufflation of air as a simple, harmless means of allowing a pleural effusion to be evacuated, without danger, while it keeps up the compression of the lung which prevents injury and promotes healing. In his extensive experience it seemed to shorten the course of the pleural affection, prevent or delay recurrence, and obviate all danger from the too rapid removal of the fluid pressing on the lungs. Without this, aspiration of a pleural effusion is liable to induce cough, dyspnea and albuminous expectoration. He insufflates the air without filtering, passing it directly into the flask which has been used for aspiration and to receive [illegible] aspirated fluid. He insufflates the air with an ordina[illegible] or other vacuum pump. Passing through the flask [illegible] evacuating tube, the air sterilizes itself, he thinks; [illegible] insufflated air helps to expel the last traces of the [illegible] The insufflation should be arrested at the slightest discomfort on the part of the patient. In one case he evacuated by this means at one sitting 4.25 liters of effusion from a tuberculous process. Dufour in another case removed 4 liters, and Vaquez 4.8 liters. The air takes the place of the heavy fluid and thus relieves the weight on the diaphragm. Acute, nontuberculous purulent pleurisy should be treated by operative measures, and no time should be wasted on insufflation of air. But in the tuberculous and in cancerous pleurisy, it is a valuable palliative measure, as also in hydrothorax.

Berliner klinische Wochenschrift.

September 14, XLV, No. 37, pp. 1669-1708.

60 Traumatic Inflammation of Joints and Compensation for Industrial Accidents. (Die traumatische Knochengelenkentzündung in ihrer Bedeutung für das Gutachten des Unfallarztes.) König.
61 Clinical Importance of Determination of Antitrypsin in the Blood. (Klinische Bedeutung der Antitrypsinbestimmung im Blute.) v. Bergmann and K. Meyer.
62 Complement Deviation Test in Typhoid. (Klinische Verwendbarkeit der Komplementablenkungsmethode bei typhoiden Erkrankungen.) O. Posner.
63 Special Structures in Old Pus Tubes. (Besondere Strukturen in alten Eitertuben.) L. Pick.
64 Severe Veronal Poisoning with Glycosuria. H. Neumann.
65 Kernig's Symptom in Tetanus. M. J. Rostowzew. *Commenced in No. 37.*

Deutsche medizinische Wochenschrift, Berlin.

September 10, XXXIV, No. 37, pp. 1577-1616.

66 *Ideal Operation for Arterial Aneurism. Enderlen.
67 *Diagnostic Importance of and Method for *Obtaining* Pancreatic Secretion from the Stomach. (Gewinnung *des* Pankreassekretes aus dem Magen und ihre diagnostische Verwertbarkeit.) J. Lewinski.
68 *Secretion from Pancreas Fistula and Influence on It of Antidiabetic *Diet*. F. Kempf.
69 Lack of Conn[illegible] Deformities with Congenital Syphilis. [illegible] Missbildungen mit der kongen[illegible]erg.
70 Atypical *Features* of the Epidemic of Measles at Vienna This Year. (Atypisches aus der diesjährigen Wiener Masernepidemie.) J. K. Friedjung.
71 *Artificially Induced Râle *Sounds* for Teaching Purposes. (Künstlich erzeugte Rasselgeräusche.) W. Hildebrandt.
72 Apparatus for Orthodiagraphic Transillumination. (Neuer orthodiagraphischer Durchleuchtungsapparat.) F. Bardachzi.
73 *How to Outline the Heart with Roentgen Rays. (Herzdarstellung mittels Röntgenstrahlen.) F. Davidsohn.
74 Necessity for *Better Training* for Anesthetists. (Bessere Ausbildung in der Narkose und Anästhesie.) H. Wohlgemuth.

66. **Ideal Operation for Arterial Aneurism.**—Enderlen reviews the work which has been done in this line and describes a case in which he extirpated a popliteal aneurism with circular suture of the artery and restoration of circulation. The defect measured 4 cm., and the stumps were brought together by flexing the knee. The knee was fastened, flexed in a splint and passive exercises commenced in a week. The earning capacity was restored completely. The patient, a man of 37, left the hospital free from disturbances in less than a month. There was a history of mild syphilis eighteen years before.

67. **To Obtain Pancreatic Secretion from the Stomach and Its Diagnostic Importance.**—Lewinski reports investigation of 29 patients to determine the presence of pancreatic secretion in the stomach content. He found it possible to detect the pancreatic secretion after the patients had taken 150 c.c. olive oil in 70 per cent. of 27 cases. When the stomach content was unusually acid, the findings were positive only when the acidity had been neutralized with an alkali. He declares that the absence of trypsin in the stomach content is a sign of insufficiency of the pancreas or of a mechanical obstacle to the passage of the pancreatic juice into the stomach. In one case of lack of pancreatic juice an obstructing stone was probable, and in another there was hour-glass stomach.

68. **Treatment of Pancreatic Fistula.**—Kempf shows by his experience with a clinical case that a fistula resulting from an inflamed cyst presents conditions which render the fistula refractory to the influence of dietetic measures. An antidiabetic diet promotes the healing of a traumatic fistula, but has little effect on the inflammatory type.

[illegible] **[illegible]aratus to Induce Râles for Teaching Purposes.**—[illegible]udt comments on the difficulty of teaching with direct [illegible]ssons the different kinds of râles and sounds heard [illegible]spiratory organs. He gives an illustrated description of an apparatus from which it is possible to auscult sounds resembling the various forms of râles. It is merely a tall glass jar, in which stands a glass tube connected with a double rubber bulb, such as is used to inflate the stomach. Auscultation of the jar or of the upper bulb reveals characteristic sounds very similar to those heard in different pathologic conditions in the chest.

73. **How to Outline the Heart with Roentgen Rays.**—Davidsohn says that complicated apparatus is not necessary to determine the exact outlines of the heart. He suspends the tube from the ceiling by a pulley, adjusting it about 6 feet above the patient reclining on a table about a foot from the floor. He centers the rays with a pendulum through a diaphragm tube between 4 and 5 feet long. With this arrangement small photographic plates can be used, requiring only from 15 seconds to 3 minutes' exposure and 8 minutes for developing.

Medizinische Klinik, Berlin.

September 13, IV, No 37, pp 1403-1438

75 *Diagnostic Importance of Extrasystolic Arrhythmia A. v Koranyi
76 *Origin of Gastric Hyperacidity (Beurteilung der Entstehung der Superazidität des Magens) F Fleischer and S. Moller
77 Unilateral Paresis of Diaphragm from Total Paralysis of Plexus and Involvement of the Sympathetic. (Einseitige Zwerchfellparese) J. Lewinski
78 Loss of Earning Power from Chronic Chorea. (Invalidität durch Huntingtonsche Chorea) E Beyer
79 Vaccination and Eczema (Impfung und Ekzem) P. Schenk
80 Weighted Percussion Hammer E Kantorowicz
81 Duodenal Diverticulum as Cause of General Jaundice (Konnen Duodenaldivertikel eine klinische Bedeutung erlangen?) T Rosenthal

75. **Diagnostic Significance of Extrasystolic Arrhythmia.**—Koranyi reports a case, study of which allows a glimpse into the mechanism of cardiac arrhythmia The localization of the thumping extrasystolic sound reveals which segment of the heart is functionally defective.

76. **Cause of Gastric Hyperacidity.**—This communication from Strauss' polyclinic discusses the various causes for hyperacidity, showing that while the theories of Rubow and Bickel may explain certain cases there are others to which they do not apply. It is evident that hyperacidity in some way be masked by a specific secretion diluting it.

Münchener medizinische Wochenschrift.

September 8, LV, No 36, pp. 1865-1912.

82 *Neutral Red Soup Test of Stomach Functioning (Neue Methode zur Funktionsprufung des Magens) Schlaepfer
83 *Apomorphin Poisoning and Relations Between Retching and Paralysis of the Muscles (Schlimme Zufalle bei der Apomorphinanwendung) E Harnack.
84 Ocular Tuberculin Reaction (Ophthalmoreaktion der Tuberkulose) Wiens and Gunther
85 "Tuberculous" Changes Without Cooperation of Tubercle Bacilli (Zur Frage der "ohne Mitwirkung von Tuberkelbazillen" erzeugten "tuberkulosen" Veranderungen.) G. Liebermeister
86 The Tasks of Modern Orthopedics (Aufgaben der modernen Orthopädie) H v Baeyer.
87 *Screw Apparatus to Promote Healing of Fractured Patella (Schraubvorrichtung zur Heilung des Kniescheibenbruchs) Bettmann
88 Mastopexy for Pendulous Breasts Dehner.
89 *Acute Non suppurating Thyroiditis. R Dunger.
90 *Exophthalmic Goiter. (Zur Basedowschen Krankheit) M Ohlemann
91 Units for Roentgen-Ray Dosage (Messung und Dosierung der Rontgenstrahlen in absoluten Einheiten. Röntgenolyse) F. Klingelfuss

82. **Neutral-Red Soup for Functional Testing of the Stomach.**—Schlaepfer regards Sahli's "fat soup" test as more promising than any other means of testing the stomach functions. It has certain disadvantages, however, and he has modified the principle, using for the purpose a colored soup. The neutral red with which it is colored gives characteristic findings by its diffusion through the stomach content and the different way in which its elements take the stain. The soup is made palatable with 30 parts egg albumin; 30 parts wheat flour, and 9 parts butter, 4 parts salt and 400 parts water. The egg is not added until after the rest has been well cooked, and then 9 parts of a 0.5 per cent. solution of neutral red are stirred into it. By this method it is possible to learn from the discoloration of the urine the moment when the pylorus first opens and to estimate the motor functioning of the stomach as a whole, also and, in the simplest way, to determine the proportions between the soup and the gastric juice in the stomach content obtained with the stomach pump, thus throwing light on the secretory functioning. The combination of albumin, carbohydrate and fat in the soup supplies the necessary physiologic stimulus. The staining of the filtered gastric juice is a criterion of its peptic power, and the modification of the tint from red to yellow and the reverse is an index of the amount of acid and the presence and intensity of fermentative processes.

83. **Mishaps with Apomorphin.**—Harnack had an unpleasant experience in his own person with apomorphin. In order to get rid at once of a foreign body inadvertently swallowed while eating, he locked himself in his room and injected subcutaneously 10 mg. of a fresh solution of apomorphin. Vomiting occurred in a few minutes, but all the voluntary muscles became so relaxed that he fell, incapable of moving a finger. Only the respiration and consciousness persisted. After about half an hour he was able to crawl to the door and unfasten it and ring for help. He felt very weak the next day and only gradually recovered strength. By a remarkable coincidence, a French professor of medicine had had a dangerous acute apomorphin poisoning in his own person about the same time He injected 13 mg., while in a weak state of health and, beside the weakness and indescribable distress, the respiration became irregular. A colleague gave him a second dose of apomorphin which induced vomiting, but was followed by renewed collapse for half an hour with stertorous breathing and livid pallor. Under analeptics recovery was soon complete. Harnack reviews half a dozen works on apomorphin and its effects, especially its connection with muscular paralysis, and discusses the connection betwen muscular paralysis and the vomiting act in general, as explaining seasickness and the muscular collapse from a violent blow in the stomach region. The retching and vomiting in seasickness, as in case of concussion of the brain, proceed directly from the brain as in apomorphin vomiting. Seasickness, which may also occur as carsickness, is liable to be very distressing and might even prove fatal. Harnack himself experienced ten days of persisting severe indisposition after being very seasick for only an hour and a half. With the seasickness comes a high degree of muscular weakness which may render the patient almost perfectly helpless. The muscles of speech share in this

so that the patient is almost unable to speak. It is fortunate, he says, that the respiratory muscles do not share to the same extent as the other voluntary muscles in the general weakness, for otherwise seasickness would be dangerous in still another way. He adds in conclusion that crystallized apomorphin is free from this paralyzing action on the respiration center, and is the only form in which it should be used in therapeutics.

87. **Screw Treatment of Fractured Patella.**—Bettmann gives an illustrated description of a screw contrivance with which he has successfully treated two cases of old fracture of the patella with a wide gap. A long drill is passed through each half of the patella, the drills being parallel. Each end of each drill is provided with a hole and screw thread. A long screw is then passed through the corresponding holes in the drills on each side and by turning the screws the drills are approximated and the halves of the patella are screwed firmly together.

89. **Acute Non-Suppurative Thyroiditis.**—Dunger reports seven cases observed at Dresden, during the last two years. The patients were all young women. In six cases there was considerable fever, and the affection began with a chill and pains in the neck radiating to the ear and to the back of the neck. There was stridor in two cases. In every instance there was some history of recent pleurisy, pneumonia or apical catarrh. His experience warns against internal administration of iodin as liable to induce exacerbations and recurrence. He is convinced that many cases of apparently spontaneous exophthalmic goiter were in reality secondary to some ignored thyroiditis.

90. **Medical Autoimpression of Exophthalmic Goiter.**—Ohlemann is a sufferer himself from exophthalmic goiter and discusses the disease from behind the scenes, as well as the influence of various therapeutic measures. He is convinced that some of the essential symptoms are the results of circulatory disturbances, especially pressure from the enlarging goiter on the internal jugular vein.

Therapeutische Monatshefte, Berlin.

September, XXII, No. 9, pp. 439-492.

92 *Dosage of Roentgen Rays for Various Affections. (Bestimmung der Strahlendosen welche bei den einzelnen zur Röntgenbehandlung geeigneten Erkrankungen erforderlich sind.) H. E. Schmidt.
93 *Maximal Dose of Alcohol. W. H. Becker.
94 Importance of Minimal Values in Balneotherapy. (Bedeutung der minimalen Werte in der Balneotherapie.) Scherk.
95 *Prophylaxis of Appendicitis. (Aetiologie der Blinddarmentzündungen.) K. Witthauer.
96 Treatment of Anemia in Children. (Behandlung der Anämie im Kindesalter.) G. Hunaeus.

92. **Roentgen Dosage of Various Affections.**—Until recently Schmidt was in charge of the institute for phototherapy connected with the university at Berlin. He remarks that very few physicians have time to determine the dosage suited for various affections, although they may be experts in Roentgen diagnosis. He gives a number of rules and recommends a simple method of dosage based on the Sabouraud radiometer. After each new tube is once tested, the dosage can then be estimated without further calculations.

93. **The Maximal Dose of Alcohol.**—Becker has made an extensive study of this subject, conducting his research on persons who are used to a certain amount of alcohol daily, from which they do not vary. He could not obtain these conditions in the young, and consequently restricted his inquiry to 50 persons, all of whom were 90 or over. The sexes were about equally divided, and he devotes eleven pages to the tabulated particulars of the 50 cases. The list includes the very poor up to the very rich, most of the individuals hale and hearty for their years. The average consumption of alcohol among 41 amounted to 14.86 gm. (about half an ounce) per capita daily. The others took no alcohol. It seems evident, he says, that these people have learned in the course of their long lives to offer their stomachs only that which they know will not cause them distress. The maximal daily dose of alcohol may therefore be accepted as above half an ounce at least.

95. **Prophylaxis of Appendicitis.**—Witthauer thinks that more attention should be paid to vegetables in the diet, thorough mastication, more frequent rather than heavy meals, and faultless digestion. The digestive functions must be kept in good order by physical measures, such as massage and electricity, or with bitters, and physical exercise must not be neglected. Bacterial influences must be combated by care of the teeth and the mouth. This is especially necessary in infectious diseases, especially those with localization in the mouth and nose. It is especially important here that the bowels should be kept well open, if necessary with calomel, to which he attributes a disinfecting action. He thinks hygiene along these lines might restrict the frequency not only of appendicitis, but of the metabolic affections as well.

Therapie der Gegenwart, Berlin.

September, XLIX, No. 9, pp. 385-432.

97 *Tuberculin Treatment of Pulmonary Tuberculosis. (Tuberkulintherapie.) M. John.
98 Study of the Blood by the General Practitioner. (Blutuntersuchungen in der ärztlichen Praxis.) C. S. Engel.
99 *Treatment of Nervous Traumatic Affections. (Behandlung der nervösen Unfallkranken.) Froehlich.
100 *Descendants of Persons Who Have Died of Cancer and Phthisis. (Nachkommenschaft der an Krebs und Schwindsucht Verstorbenen.) F. v. d. Velden.
101 *Psychoses of Pregnancy. (Graviditätspsychosen.) O. O. Fellner.
102 Dangers of Repeated Injection of Large Amounts of Curative Sera. (Gefahr der Reinjektion grösserer Mengen von Heilserum.) G. Klemperer.

97. **Tuberculin Treatment.**—John devotes nine pages to tabulation of the details of 200 cases of pulmonary tuberculosis treated with tuberculin. The results were conflicting, proving negative in some of the apparently promising cases, while they were surprisingly good in others, even in some advanced cases. The dosage was very small and cautious, especially in the cases with complications.

99. **Treatment of Traumatic Nervous Affections.**—Froehlich refers especially to industrial accidents under the workmen's compensation laws. He tries to outline the course for the general practitioner called to treat a case of the kind. The main point is rather to treat the general disturbance than the special symptoms of which the patient complains. The psychic affection—which the traumatic neurosis pre-eminently is—requires systematic psychic treatment. The headache, for example, in such cases is not the result of organic changes in the brain or membranes, and it is no wonder that otherwise effectual drugs fail to produce the desired effect. And yet the tendency is to drug such patients! A particularly good method of applying faradic electricity is to have the patient hold one electrode and the physician the other, the current being applied through the moistened other hand of the physician placed on the brow of the patient. He warns that with electricity as with drugs, habit formation should be avoided. Insomnia is best combated by regulation of the diet and tepid rubbing down or packs of the trunk or calves in the evening. The severer cases of psychic depression require institutional care, and psychic pains at the point of injury are best combated by exercising in a medico-mechanical institute. The patient learns to use his limbs in spite of the pain, and finds that movements are possible which he supposed were beyond his power. Repeated examinations of the patient on behalf of the insurance company have an injurious influence, especially when contradictory reports are discussed before him. The most important point for the prognosis is to have the litigation brought to a conclusion at the earliest possible moment.

100. **The Descendants of the Cancerous and the Tuberculous.**—Velden's article is based on Riffel's tables, study of which shows anew the constitutional nature of cancer, as a person who succumbs later to cancer begets almost invariably children who are below par even when apparently normal at the time of birth. At the same time, the descendants seem to be on a higher physical level than the descendants of the tuberculous.

101. **Pregnancy Psychoses.**—Fellner has observed three cases which confirm the assumption that the psychoses in eclamptics have a more favorable prognosis than other pregnancy psychoses. The connection between the mental disturbances and the pregnancy and the evidence of a toxicosis are unmistakable. It is also remarkable that the psychosis does not

develop until after the child and the placenta have been delivered. In his three cases the psychosis developed after the eclampsia had subsided, and it persisted until a fragment of the placenta still left in the uterus had been removed, after which the psychosis immediately subsided. The fragment of placenta still attached to the maternal tissues allowed the penetration of decaying albuminoids into the blood, thus causing the toxicosis. It seems probable that puerperal psychoses, and even eclampsia, may be the result of retention of fragments of placenta. In any event, retained placental scraps should be sought in every case of psychosis in a parturient.

Wiener klinische Wochenschrift.

September 10, XXI, No. 37, pp. 1285-1316.

103 *Connection Between Phlyctenular Eye Affections and Tuberculin (Zusammenhang der exsudativen (phlyktänulären) Augenerkrankungen und der Tuberkulose.) A. Schütz and R. Videky.
104 Experiences with Cutaneous and Subcutaneous Tuberculin Reaction. Id.
105 *Urethral Tuberculin Reaction. M. Oppenheim.
106 Deviation of Complement with Tubercle Bacilli Derivatives as Antigen in Tuberculosis and Infectious Diseases. A. Wolff-Eisner.
107 Significance of Binding of Complement for Theory of Action of Tuberculin. Id.
108 "Caloric Nystagmus" Test in a Case of Fistula of the Labyrinth. I. Kiproff.

103. **Phlyctenular Ocular Affections and Tuberculosis.**—Schütz and Videky have been studying the tuberculin reactions in forty-nine cases of phlyctenular eye affections. They conclude that the Pirquet cutaneous reaction is seldom dependable, while the subcutaneous reaction is sensitive and reliable. The phlyctenular eye affections are of tuberculous origin in a certain proportion of the cases, but not in all. The differentiation of the two forms is extremely important for treatment. The tuberculous form heals more readily under tuberculin and it requires different dietetic treatment. The exacerbation or renewal of the phlyctenæ may be regarded as a specific focal reaction. They tabulate the findings with the various tuberculin tests in over a hundred cases of various eye affections, the work being done in the ophthalmologic service of a Budapest hospital.

105. **Urethral Tuberculin Reaction.**—Oppenheim states that, besides the conjunctiva, the mucosa of the urethra also may present the specific reaction to instillation of tuberculin, as he shows by reports of several cases in which he applied this urethral technic. The urethral reaction is much weaker and less constant than the ocular. Slight smarting during urination, slight redness and sticking together of the lips of the orifice and a drop of a whitish secretion were the most marked evidences of a reaction which he was able to obtain. He found that the cutaneous and urethral reactions applied together paralleled each other in respect to the time when they appeared and the intensity of the reaction.

Zentralblatt für Chirurgie, Leipsic.

September 12, XXXV, No. 37, pp. 1089-1112.

109 *Fixation of the Movable Cecum to Relieve "Chronic Appendicitis." (Fixation des Coecum mobile.) Wilms.

109. **Fixation of the Movable Cecum to Relieve "Chronic Appendicitis."**—Wilms is certain that the symptoms in many cases of supposed chronic appendicitis are in reality due to gynecologic or neuralgic conditions, or to abnormal movability of the cecum. In forty cases he has combated this latter anomaly by fastening the cecum to the posterior abdominal wall. He makes a large pocket in the retroperitoneal space and pushes the unduly long and movable part of the cecum into this pocket. The corner of the peritoneum left from the triangular incision is then drawn up and fastened to the peritoneum of the anterior abdominal wall. By this method adhesions form over the surface of the cecum and hold it firm without suturing. The results have been excellent in his experience, relieving patients whose disturbances had persisted after appendicectomy.

Zentralblatt für Gynäkologie, Leipsic.

September 12, XXXII, No. 37, pp. 1201-1232.

110 *Results of Vaginal Ablation of Cancer of the Cervix. (Die Resultate der erweiterten vaginalen Totalexstirpation des Uterus durch doppelseitige Scheidenspaltung bei Collumkarzinom.) C. Staude.
111 *Differentiation of Virulent Hemolytic Streptococci. F. Fromme.

110. **The Results of Vaginal Ablation of Cancer of the Cervix.**—Staude refers in particular to what he calls the enlarged total vaginal extirpation of the uterus by bilateral incision of the vagina and perineum. He has performed this operation in 104 out of 156 cases of carcinoma of the cervix and Schauta in 258 cases. Staude's operability of 72.3 per cent. equals, he says, that of the abdominal operations. Accidental injury of the bladder or ureter occurred in 11.6 per cent., but the rectum was never injured. Recurrence has been observed in only 29 of the total of 104 cases. The main danger with this technic is the liability to phlegmon in the pelvis, resulting from the vaginoperineal incisions. This was the cause of fatal peritonitis in 9 of the 21 patients who died in consequence of the operation; in Schauta's experience it occurred in 6 of the total 28 fatal cases. The number of absolute cures according to Winter's formula was 23 per cent. of the 93 patients operated on between 1894 and 1903; 17 of these patients were in good health in March, 1908, that is, from five to twelve years after the operation. He describes his technic in detail and says that few others can show much better results than his 41.5 per cent. cured of 58 patients operated on five or more years ago; 33.3 per cent. of 10 operated on four years ago, and 43 per cent. each of 9 after a three-year interval and 10 after two years.

111. **Differentiation of Virulent Hemolytic Streptococci.**—Fromme's previous announcement in regard to the importance of hemolytic properties as an index of the virulence of the streptococci in puerperal infection has been amply confirmed by further experience. He has discovered, however, that typical hemolytic streptococci may be encountered even in normal conditions, and that this occurs in about three-eighths of all cases. He has found, nevertheless, that there is a difference in the virulence of the hemolytic streptococci. The really virulent ones are unable to proliferate in a blood clot free from serum, while the harmless hemolytic types grow freely in it. He was led to this discovery by the fact that he was never able to detect virulent hemolytic streptococci in the vagina. He discusses the various aspects of the phenomenon and describes a method with which it is possible to differentiate the highly virulent streptococci. He inoculates 1.5 c.c. of a 5 per cent. blood clot, entirely freed from serum, with one loop of a twenty-four-hour broth culture of the streptococci from the patient. After twelve hours in the incubator a blood-agar plate is inoculated with it. Highly virulent germs develop in extremely small numbers, while the slightly virulent ones grow too numerous to count.

Gazzetta degli Ospedali e delle Cliniche, Milan.

September 6, XXIX, No. 107, pp. 1129-1144.

112 *Artificial Hemolysins and Blood Production. (Emolisine artificiali ed ematopoiesi.) C. Molon and G. Tanfani.
113 The Blood in Experimental Pellagra. (Studi ematologici sulla pellagra sperimentale.) L. Savini-Lojani.
114 *Electric Accidents. (Della folgorazione da correnti elettriche.) M. Ferrari.
115 Two Cases of Primary Epithelioma of the Vulva. C. Viscontini.
116 Favorable Experiences with Hyperemic Treatment in Dispensary Practice. (Alcune applicazioni ambulatorie di Stasi alla Bier.) A. Muggia.

112. **Artificial Hemolysins and Blood Production.**—This communication from Lucatello's pathologic institute at Padua describes research on the stimulating effect on the blood production of injection of foreign serum. Carnot announced two years ago that the serum from an animal, several hours after venesection, when injected into another animal stimulates the production of blood to such an extent that the number of red corpuscles nearly doubles. Not only the serum but the blood marrow seems to acquire this stimulating property after venesection. Sonneville applied these findings in the clinic, injecting anemic children with 5 or 6 c.c. of rabbit serum, drawn a few hours after venesection, repeating the injection two weeks later. The blood production in the children rapidly became normal, and similar results were obtained by Molon and Tanfani with anemic patients and healthy rabbits. They report here considerable experimental research which confirms the fact that after venesection the regenerating processes produce young blood which is more vitalized and thus richer in specific energy. They ascribe to its specific hemolytic property it-

stimulating action on the blood-producing organs, when injected into another animal. Even normal serum possesses this stimulating property to some extent, but it is materially enhanced by a preceding venesection, as seems to be conclusively demonstrated by the test-tube experiments here related.

114. **Electric Injuries.**—Ferrari expatiates on the necessity for discrimination in estimating the severity of an electric injury. He describes a case in which a young electrician had a current of 7,000 volts pass through his body from the right hand to the right foot in contact with the earth. On recovering consciousness, several hours later, there was transient paresis on the left side with persisting right hemiplegia. Seven months later the right hemiplegia and paroxysmal pains on the right side, with irritability, were the main symptoms, but there was nothing to indicate organic lesions, and great improvement was obtained by neurologic measures. The current had passed through the right side, the heart and central nervous system escaping. The contact was single and instantaneous, the instinctive voluntary movements or the muscular contraction releasing the live wire. When he entered the hospital the syndrome was that which Charcot called hysteric paralysis, but Ferrari does not accept this conception, regarding the case as a traumatic neurosis remarkable for the mildness of the injury in comparison to the enormous charge.

Policlinico, Rome.

September, XV, Surgical Section, No. 9, pp. 376-424.

117 Rare Variety of Femoral Hernia. (Ernia crurale.) E. Borelli.
118 *Treatment of Varices. (Contributo clinico alla cura delle varici.) R. Pandolfini.
119 *Technic for Resection of Elbow. (Nuovo processo di resezione del gomito.) A. Isaja. Commenced in No. 8.

September, Medical Section, No. 9, pp. 385-432.

120 *Epithelioma of Liver Associated with Cirrhosis. (Neoplasie epiteliali del fegato associate a cirrosi.) F. Fulci.
121 Differentiation of Exudates and Transudates. (Diagnosi differenziale tra essudati e transudati.) G. Vincenzo. Commenced in No. 8.

118. **Treatment of Varices.**—Pandolfini reports twenty-nine cases treated by various operative measures, the result showing that ligature and resection of the saphenous vein cure in a large number of varicose lesions. It is not necessary to remove an extensive stretch of the vein. If the lesions are unusually extensive, it is better to excise the veins or make a circular *incision, interrupting the course of all the superficial veins.* This latter process should be the rule in case of extensive ulceration. In case of recurrence, renewed operations may be necessary, unless individual conditions contraindicate operative measures, as in a case he relates in which varices followed typhoid thrombosis seven years before.

119. **Resection of the Elbow with Retention of Function.**—Isaja reviews ten cases from the literature in which traumatic ankylosis of the elbow was treated by the interposition of a muscle flap. He then describes a case in which he modified the Helferich technic, as he shows by several illustrations. He made a large horseshoe incision to cut a flap in the aponeurosis over the olecranon, sawing off the olecranon process, leaving it still adherent to the muscle flap. After sawing off the ends of the bones and interposing the flap of aponeurosis the section of the olecranon is sutured to the dorsal aspect of the ulna, the periosteum removed for about 3 cm. and a little recess made for the purpose. The olecranon process is further fastened to the ulna by means of a nail. The head of the nail is allowed to protrude through the skin as the oval skin flap is replaced and sutured. Passive movements were commenced in a week and the twenty-fifth day the nail was removed. Four months later the results were good. The advantages of this technic are that by resecting the olecranon process and by its implantation on the ulna the muscular apparatus of the joint is left intact. The various steps of the operation are shown in illustrations. The oval incision leaves ample space for resection of the epiphysis of the humerus and bones of the forearm. It also allows the flap for interposition between the stumps to be taken from the stout aponeurosis of the brachialis anticus.

120. **Cancer of the Liver with Cirrhosis.**—Fulci reports two cases of malignant epithelioma in the liver in elderly women in which three morbid processes coexisted: the cancer, cirrhosis and suppurative angiocholitis in one, and the cancer, cirrhosis and hydatid cyst in the other. The different processes developed independently, the clinical picture in the first being dominated by the angiocholitis, and in the other by the tumefaction from the parasitic affection.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By Horatio C. Wood, M.D., LL.D., Emeritus Professor of Materia Medica and Therapeutics in the University of Pennsylvania. Revised and rewritten by Horatio C. Wood, Jr., M.D., Associate Professor of Pharmacology in the University of Pennsylvania. Fourteenth Edition. Cloth. Pp. 778, with illustrations. Price, $5.00. Philadelphia: J. B. Lippincott Co.

PATHOGENIC MICRO-ORGANISMS, Including Bacteria and Protozoa. By William Hallock Park, M.D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College. Assisted by Anna W. Williams, M.D., Pathologist to the New York Infirmary for Women and Children. Third Edition. Cloth. Pp. 642, with illustrations. Price, $3.75. Philadelphia: Lea & Febiger, 1908.

MEANS FOR THE PROLOGATION OF LIFE. Third and Enlarged Edition of a Lecture Delivered Before the Royal College of Physicians on Dec. 3, 1903. By Sir Hermann Weber, M.D., F.R.C.P., Consulting Physician to the Mount Vernon Hospital for Consumption. Cloth. Pp. 214. Price, $1.00. London: John Bale Sons & Danielsson, Ltd., 1908.

A TEXT-BOOK OF BOTANY AND PHARMACOGNOSY. By Henry Kraemer, Ph.B., Ph.D., Professor of Botany and Pharmacognosy, and Director of the Microscopic Laboratory, in the Philadelphia College of Pharmacy. Third Edition. Cloth. Pp. 850, with illustrations. Price, $5.00. Philadelphia: J. B. Lippincott & Co.

A MANUAL OF CLINICAL DIAGNOSIS. By James Campbell Todd, Ph.B., M.D., Associate Professor of Pathology, Denver and Gross College of Medicine (University of Denver). Flexible Leather. Pp. 318, with illustrations. Price, $2.00. Philadelphia: W. B. Saunders Co., 1908.

DIE KÜNSTLICHE ZÜCHTUNG DES KREBSERREGERS, Seine Feststellung in der Aussenwelt, und der rationelle Krebsschutz. Von Dr. Robert Behla, Geheimer Medizinalrat. Paper. Pp. 84. Price, $0.60. Berlin: Richard Schoetz.

AN ALABAMA STUDENT, and Other Biographical Essays. By William Osler, M.D., F.R.S., Regius Professor of Medicine, Oxford. Cloth. Pp. 334. Price, $2.50. New York: Oxford University Press, American Branch, 1908.

THE AGE OF MENTAL VIRILITY. By W. A. Newman Dorland. Cloth. Pp. 211. Price, $1.00. New York: The Century Co., 1908.

New Patents

Recent patents of interest to physicians:

896882. Vibratory massage device. A. H. Arnold and A. F. Furbush, Poughkeepsie, N. Y.
897050. Uterine supporter. G. Beck, Jersey City, N. J.
896704. Air-bath apparatus. F. S. Betz, Chicago.
896807. Agar-agar-cascara product and making same. K. Dieterich, Helfenberg, Germany.
897075. Hold for thermometers. L. R. Edwards, Jacksonville, Fla.
896813. Tool tray. E. Ekstrom, Cromwell, Minn.
896814. Veriscope. W. H. Ely, Middletown, Conn.
896824. Mechanical respirator. A. N. Habberley, Newton, Mass.
897131. Medicine-dropper. H. I. Owen, Fulton, Mo.
896942. Disinfecting apparatus. P. Rudisch, New York.
897170. Soda-water fountain. B. Spinelli, New York.
896959. Pasteurizing apparatus. F. Tyson, Canton, Ohio.
897810. Manufacturing instruments for separating the cuticle from the nails. R. Armory, Boston.
897289. Breast-pumping machine. T. W. Howell, Mabton, Wash.
897318. Ozonizer. J. Steynis, New York, and H. Chaumat, Paris, France.
897434. Bed-pan. D. A. Waltz, Salt Lake City.
898300. Vaginal syringe. W. E. Allen, San Diego, Cal.
898035. Audiphone. C. L. Buckwalter, Loudonville, Ohio.
898311. Manufacturing new compounds of proteids with bismuth iodid. A. Busch, Brunswick, Germany.
897885. Manufacture of casein. H. V. Dunham, Bainbridge, N. Y.
897890. Invalid bed. J. Hall, North Monroe, N. H.
898379. Antisnoring device. L. F. Leibhardt, Denver.
898253. Making tartaric acid. J. McDougall, Greenwich Park, Eng.
898258. Suspensory undershirt. R. D. Peters, Knox, Ind.
898545. Apparatus for deodorizing and filtering petrol spirit. A. J. Barnes, London, Eng.
898845. Can for atomizer bottles or the like. T. A. De Vilbiss, Toledo, Ohio.
899007. Atomizer. T. A. De Vilbiss, Toledo, Ohio.
898866. Treating substances containing crude tartar. V. J. Garin, Annemasse, and F. David, Cette, France.
898506. Apparatus for the production of ozone. J. R. Quain, London, Eng.
898942. Making aromatic carbonyl derivatives. A. Wack, Belleville, N. J.
898943. Making camphor. A. Wack, Belleville, N. J.

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Original Articles

COMMERCIAL THYROID PREPARATIONS AND SUGGESTIONS AS TO THE STANDARDIZATION OF THYROID.*

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In these remarks the thyroid will be considered from but one standpoint, namely, as a drug in the same sense that opium and nux vomica are drugs.

One of the most marked tendencies in therapeutics at present is the desire on the part of thoughtful physicians for full information as to the composition and strength of the drugs they use. The specious arguments for secrecy as to the composition of drugs on the ground that there are proprietary rights to be protected now receive little attention from physicians who have a proper sense of duty to their patients. Certain manufacturers advanced such arguments a few years ago in justification of their use of wood alcohol as a substitute for ordinary alcohol in some tinctures.

Manufacturers learned long ago that in purchasing crude drugs for the purpose of separating alkaloids (quinin and morphin, for example) simple inspection or even microscopic examination was not sufficient to insure a good yield: chemical assay was necessary. Pharmacists and physicians are also realizing more and more the need of some kind of assay for most drugs. It is being recognized, for example, that the value of ergot and of digitalis can be determined only by means of physiologic testing. The United States Pharmacopeia (eighth revision), recognizing this tendency, has introduced new standards of strength, and methods to confirm them, for over fifty important preparations; among these is one method of physiologic assay (that of serum antidiphthericum).

One of the most valuable drugs recently admitted into the United States Pharmacopeia is thyroid. The introduction of this preparation into medicine represents one of the most distinct advances in therapeutics in recent years. There is, however, a widespread belief (fully justified, we believe) that the various commercial preparations of thyroid vary considerably in strength. At present there is no generally recognized method of determining their strength, save by the very tedious and time-consuming one of testing them clinically. One of the objects of this paper is to discuss what seems to be a feasible method of determining the physiologic activity of thyroid preparations and to suggest a method of standardization which would insure preparations of definite, or, at least, of known strength.

The general principles of drug assay are too well known to need special discussion. The simplest and most satisfactory method is the one of chemical assay. This method is possible only when it has been determined that the chief therapeutic value of a drug is dependent on one or more constituents which can be determined quantitatively with a fair degree of accuracy.[1]

In other cases the method of assay of a drug is much more direct; thus the value of diphtheria and tetanus antitoxin can be determined only by inducing in lower animals a condition at least similar to the one to be treated in man and then determining the curative effect of the antitoxin. With other drugs different forms of assay are used; thus the effect of digitalis on the frog's heart or that of ergot on the cock's comb are known to give a truer indication of the therapeutic value of these drugs than any chemical method or isolated clinical tests.

None of the above methods, however, is as yet applicable to the standardization of the thyroid. The active constituent is not sufficiently well known to admit of chemical assay and there is no physiologic test sufficiently simple and direct to admit of practical use for this purpose. At present the physician is compelled to determine the value of a thyroid preparation directly on the patient and thus risk giving too little or too much. Not only is time often lost by these trials, but the tests have to be repeated whenever a new preparation is used.

THE RELATION OF IODIN TO THE PHYSIOLOGIC ACTIVITY OF THE THYROID.

The most characteristic constituent of the thyroid from the chemical standpoint is iodin. This element is present in a peculiar and unknown form of combination. The question has often been raised if the amount of iodin may not be taken as an index of the activity of the thyroid. This question has been answered in various ways. The earlier writers (Baumann, Roos, Oswald) maintained that the activity of the thyroid was directly dependent on and proportional to the iodin content; they reported experiments in favor of this view, but these were few in number and the results were not very satisfactory quantitatively. Several more recent writers (notably Jolin), on the other hand, have taken the view that there is no relation between the activity of the thyroid and the iodin content and hold that the iodin should be considered rather as an accidental constituent, as seems to be the case with the copper usually found in the liver. The arguments on which this view is based are derived largely from what may be called statistical studies. Thus it has been found that iodin can frequently not be detected in the thyroid of animals apparently in good health, but that nevertheless removal of the thyroid in such animals is followed by the same symptoms as in those whose thyroids contain iodin. Recent studies by Marine and by Marine and Williams along somewhat analogous lines have, however, shown that there is a very definite relation between the percentage of iodin and the structure and efficiency of the thyroid. In any case it is evident that studies of this character have not a very direct bearing on the subject now under discussion, namely, the use of thyroid as a drug. Whatever may be the relation of the iodin to the thyroid in the body, the same relation may not hold when the thyroid is given by the mouth as a remedial agent.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] As knowledge progresses it becomes evident that in some cases ordinary chemical methods do not suffice to give full information concerning a drug. Thus, two samples of scopolamin may be equally pure, but one may have twice the activity of the other on the peripheral nerve endings. Careful studies by Cushny show that the more active preparation is strongly levorotatory, whereas the one which is less active *physiologically* is less active optically. The two preparations, however, are equally active as sedatives and hypnotics. Ignorance of these facts has led to much confusion, which has been taken advantage of by certain manufacturers engaged in the exploitation of scopolamin under the old name of "hyoscin."

There is, finally, a third view on this subject which combines the two already discussed. The adherents of this view admit that there may be a parallelism between the percentage of iodin and the physiologic activity, but do not admit that this is a causal relation. They think that the more active the gland the larger the amount of iodin with which it can combine. Under these premises the percentage of iodin might, but would not necessarily, be an index of the physiologic activity of the thyroid. The amount of the iodin would depend in part on how much of this element had been available in the food. We consider this view, for reasons given later, untenable.

On the whole, the evidence at present available points to the conclusion that the activity of thyroid is generally parallel with the iodin content and that the latter may be used as a basis of assay. There is also a certain amount of clinical evidence that iodin-rich thyroid is more efficient in the treatment of certain forms of goiter than is the iodin-poor thyroid (Roos). In this connection there are, however, a number of unsolved problems. In the first place the above conclusions were based on very few experiments, and these were performed by methods which do not admit of accurate quantitative results. There is nothing to indicate whether all of the iodin in the thyroid is in a physiologically active combination. Further, the question has as yet never been answered whether, after all, the parallelism observed between the percentage of iodin and the physiologic activity may not be a mere coincidence and without causal connection. In the following study an attempt will be made to answer some of these questions.

METHODS.

The explanation of the fewness of the experiments on these problems is that up to the present there has been no method of measuring with ease and accuracy the physiologic activity of thyroid. We believe that we have found such a method in the effects of thyroid feeding on the resistance of animals to certain poisons (chiefly acetonitrile and morphin). One of us has already published an account of this method and discussed some of the results obtained.[2] These results may be summarized as follows:

1. Iodin-free thyroid has a low degree of physiologic activity.

2. The presence of even a very small percentage of iodin (in proper combination) markedly increases the physiologic activity of the thyroid.

3. Within certain limits the amount of one of the above-mentioned poisons (acetonitrile) which the organism can neutralize as a result of feeding thyroid is directly proportional to the percentage of iodin contained in the thyroid; in many experiments a given amount of thyroid containing 0.2 per cent. of iodin enabled a mouse to recover from twice as much acetonitrile as did a preparation with but 0.1 per cent. of iodin. Moreover, to obtain equal results with these thyroid preparations it was necessary to give twice as much of the iodin-poor thyroid as of the iodin-rich thyroid. In but one case did we find an exception to the general rule that the greater the percentage of iodin the greater the degree of physiologic activity. In many cases the results were not so sharply quantitative as in the experiments mentioned above. This was not, however, a matter of surprise, for it is rare to find a drug which in twice the dose will produce twice the effect. With each preparation of thyroid there is a dose which produces a maximum effect; as the doses approach this maximum the differences between the physiologic activity of successive increments become progressively less. The curve showing these facts graphically is a parabola.

By working with doses of thyroid well below the maximal, however, and by paying careful attention to details, it was usually possible to obtain quantitative results. We have repeatedly found that by comparing various doses of a thyroid preparation of unknown iodin content with another of which the percentage of iodin was known, it was possible to determine the percentage of iodin almost as accurately as by chemical analysis. In these experiments the analyses were made by one of us without any knowledge of the physiologic work of the other and the results compared afterward. Such results were obtained not only with the dry thyroid powders but with complex mixtures, such as certain secret "anti-fat remedies" and "protonuclein" containing thyroid.

THE NATURE OF THE RELATION OF THE IODIN TO THE ACTIVITY OF THE THYROID.

The above experiments show that there is a parallelism between the iodin percentage and the physiologic activity of the thyroid. We may now discuss the nature of this relation. As already pointed out, some authors admit this parallelism, but hold that the iodin is present in some thyroids in larger amount because of the greater activity of the thyroids—that is, that the more active the thyroid, the larger the amount of iodin it can hold in combination. On this hypothesis we should expect to find at times thyroid poor in iodin but very active physiologically, for it is evidently largely a matter of chance whether the food of an animal contains iodin in sufficient amount to raise the percentage in the thyroids to a maximum. We have, however, not found a single specimen of thyroid poor in iodin and high in degree of physiologic activity.

This problem may be approached also from the experimental side by administering iodin to animals and seeing if with the increased percentage of iodin in the thyroid there is increased physiologic activity. Roos reported several years ago one experiment of this nature. His conclusion is that thyroid the iodin content of which is thus increased shows increased physiologic activity. Roos' experiment is, however, open to certain criticisms. Thus the administration of iodin was continued for eighteen days; it is possible that the iodin had simply stimulated the thyroid to increased growth and that the increased physiologic activity was due to this and not to the increased percentage of iodin which it contained. In our experiments iodin (in the form of potassium iodid or iodoform) was administered but twice, namely, on two successive days, and the animals (dogs) were killed on the day following the second dose. The thyroids of dogs so treated contained from two and one-half to three times as much iodin as those of the controls; the physiologic activity of the former was from two to three times as great as that of the latter. Any other supposition than that the increased physiologic activity of the thyroid in these experiments was due directly to the iodin which had been taken up by the thyroid is highly improbable.

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[2] Hunt: The Journal A. M. A., 1907, xlix, 1323. These experiments will soon be published in detail in a Bulletin of the Hygienic Laboratory.

IS THERE "INACTIVE" IODIN IN THE THYROID?

It is generally admitted that if the physiologic activity of the thyroid is dependent on the iodin it is because the latter is in some special form of combination. It is possible to add iodin to the thyroid or its colloid *in vitro* until the percentage is increased many times; such an artificially iodized colloid is not more active physiologically than the original iodin-poor colloid. These results suggest the question whether iodin may not at least sometimes be normally present in the thyroid in an inactive form. If this were the case it is evident that the physiologic activity of a thyroid preparation could not always be predicted from its iodin content. We have found little evidence in support of this supposition; even in pathologic conditions (colloid and cystic goiters) the iodin seems to be present largely in a physiologically active form.

So sharp have been the results of our experiments on this subject that if we found thyroid with a high iodin content but with a low degree of physiologic activity we should not hesitate to say that it was adulterated with iodin or some compound of iodin: we know, however, of no such preparation on the market. We have, however, found commercial preparations of iodothyrin which contained a considerable amount of iodin but which had a low degree of activity. We believe that this indicates a partial decomposition of the iodin compound during the process of manufacture. In this connection we may state that there are simple chemical tests by which the presence in a thyroid preparation of artificial iodin compounds may usually be detected. In doubtful cases the physiologic test would give a positive answer.

We believe that the above experiments and considerations strongly support the view that the therapeutic value of a thyroid preparation is dependent on the percentage of iodin in proper combination. It is very desirable that the subject be reinvestigated from the clinical side; for this purpose it is necessary to have preparations of known iodin content. At present there seems to be but one preparation on the market for which a definite iodin content is claimed; but it is believed that there are a number of manufacturers who would be willing to determine and state the percentage of iodin of their products. Such a statement would at least enable the physician to regulate the doses more accurately than at present. Ultimately it may be desirable for the Pharmacopeia to fix a standard. Most of the preparations on the American market vary in percentage of iodin from 0.1 to 0.2; possibly a requirement of not less than 0.12 per cent. would be reasonable for the dried powder.

COMMERCIAL THYROID PREPARATIONS.

Thyroid Powder.—Many analyses have been published showing the wide variations in the percentage of iodin in desiccated sheep thyroid (the form usually used in medicine). The most striking figures for the United States are those of Koch,[3] according to which glands collected during the winter months may contain as much as three times the amount of iodin as those obtained in June and July. Marine and Williams[4] found the iodin content of normal or supposedly normal glands to vary from about 0.109 to 0.177 per cent. In our extensive series of analyses of commercial thyroid powders we have found the percentage to vary from slightly less than 0.1 to slightly more than 0.2. The percentage of iodin contained in the thyroid of different tablets was found to show greater variations, viz., from 0.084 to 0.32; this is on the assumption that the tablets contained the amount of thyroid claimed. Thus it is evident that if the iodin percentage is a true index of activity, some commercial thyroids are from two to four times as active as others. The use of such preparations would seem to be as illogical as would that of preparations of Fowler's solution showing variations of 400 per cent.

Thyroid Tablets.—We have endeavored to show in the above that there is an element of uncertainty as to dosage, owing to variations in the percentage of iodin when ordinary commercial thyroid is prescribed. This uncertainty is much increased when physicians state that they prescribed "two thyroid tablets" or a "five-grain tablet" or "five grains of thyroid" in tablet form, for the dosage of commercial tablets is expressed in different terms by different manufacturers. Thus one firm's "five-grain tablet" means a tablet weighing five grains, but containing two grains of dried thyroid; another firm's "five-grain tablet" means that the tablet contains the equivalent of five grains of the fresh gland. The "two-grain tablets" of another firm means that each tablet contains two grains of dried thyroid, equivalent to ten grains of the fresh thyroid.. In many cases it is evident that when a physician writes of prescribing five or ten grains of thyroid he means that he prescribes dry thyroid equivalent to five or ten grains of the fresh gland, although in other cases he may mean five grains of the dried gland. Those who simply speak of prescribing so many "tablets," without further specification, probably have no clear idea of how much thyroid they are giving. Inasmuch as some thyroid tablets contain twice as much thyroid as others, and further since some samples of dried thyroid have two to four times the activity of other samples there is a possibility of the effect from one tablet being four to eight times as great as that from a tablet of another make.

Since thyroid is seldom, if ever, prescribed in the form of the fresh gland, there seems to be no reason for continuing the references to the amount of fresh thyroid which a tablet represents; such a procedure

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3. Proc. Am. Pharm. Assn., 1907, lv, 371.
4. Arch. Int. Med., 1908, i, 378.

only causes confusion. The physician is also not particularly concerned with the amount of inert material used in the preparation of a tablet; such expressions as a "five-grain tablet containing two grains thyroid U.S.P." is likely to lead to confusion.

Iodothyrin.—Baumann separated from the thyroid a substance, iodothyrin, which he believed to represent the full physiologic activity of the gland, even if it could not properly be called the "active principle." Baumann brought forward strong evidence, both experimental and clinical, in support of this contention. A preparation of iodothyrin, made according to Baumann's method, has been on the market for several years, but it has apparently been a disappointment and has not come into very general use. The explanation of this is not far to seek if the three preparations we have examined may be taken as fair representatives of the commercial products. These samples all contained about the same percentage of iodin, but whereas one gave no reaction for loosely combined iodin (treatment with concentrated nitric acid in the presence of starch paste), and another only a moderate reaction, the third gave this reaction very strongly. As is well known, the iodin is in very firm combination in the thyroid and in true iodothyrin: hence from these chemical differences we expected to find differences in physiologic activity. As a matter of fact, the sample of iodothyrin with the firmly bound iodin had the full activity of thyroid containing an equivalent amount of iodin. In several experiments the iodothyrin seemed to be more active than an equivalent amount of thyroid, an observation similar to that made by Baumann. One of the other samples (with loosely bound iodin) was about one-third as active physiologically, while the third specimen was still weaker. There had apparently been much decomposition in the preparation of the iodothyrin.

Proprietary Preparations Containing Thyroid.—Anti-fat Remedies.—The thyroid, like almost all other drugs the value of which physicians have discovered, has passed rapidly into the hands of the laity and is now probably used more extensively without than with medical advice. The "patent medicine" manufacturers (and also those of "ethical proprietaries" as we shall see) have "combined" it with, or rather have concealed it in, various mixtures for which extravagant prices are asked. Among the substances with which it is mixed are tamarinds, toasted bread, licorice powder, poke-root, bladderwrack, etc. It is brought on the market in these mixtures under various fanciful, often misleading, names. The advertisements of such preparations are often found in the lower classes of newspapers, frequently accompanied by "fake" or "freak" photographs of "before" and "after" taking (more truthfully before and after the changing of the lenses in the photographer's camera). Among the most widely advertised of these preparations which give the chemical and physiologic tests for thyroid are "Rengo," "Kellogg's Obesity Food," "Arbolum Mixture," and "Marmola." The latter is put up in a form almost identical with that of many "physicians' proprietaries," and contains the following directions on the label: "Doctor: Marmola is a Scientific and Effective Preparation for the Reduction of Fat . . . insist on getting this original unbroken package . . . the best results are obtained from Marmola when prepared as follows." Then follows a prescription calling for Marmola and some ordinary drugs.

Like all "patent medicines," these mixtures are stated to contain nothing "harmful or deleterious to health"; Rengo is to be eaten "like you would candy or fruit."

This phase of the history of thyroid is very similar to that of acetanilid. The physiologic effects of both were discovered by physicians. The medical profession quickly appreciated the dangers connected with their use and learned to use them more cautiously; many physicians have practically abandoned them for safer remedies or have restricted their use to cases where they are indispensable (thyroid in cretinism, etc.). In nearly all countries acetanilid is classed as a poison and the same restrictions are placed on the sale of thyroid as on that of other powerful drugs. In the United States, however, acetanilid is sold at the soda water fountains and thyroid is distributed by the mail-order houses. Commercial chemists, pharmacists, and even laymen, notwithstanding their ignorance of the first principles of diagnosis and therapeutics, unite in instructing both the physicians and the laity as to the safety and physiologic action of these powerful drugs which the physician has discovered.

Protonuclein.—Very similar in many respects to the above "patent medicines" is the "ethical proprietary" "Protonuclein." Protonuclein is a diluted thyroid preparation: samples examined by us, chemically and physiologically, were found to contain the equivalent of 10 per cent of thyroid containing 0.1 per cent. iodin. (The actual amount of thyroid may be greater or less, as we do not know the percentage of iodin in the thyroid used; but the mixture contained 0.01 per cent. iodin and has one-tenth the physiologic activity of a thyroid preparation containing 0.1 per cent. iodin.)[5] The dose recommended on the bottle is six to twelve grains every three or four hours: this represents six-tenths to one and one-fifth grains of many commercial thyroid powders. The presence of this thyroid is as skillfully concealed as it is in the case of "Rengo" or "Marmola"; yet the amount in a dose does not differ materially in the three preparations. Protonuclein is stated to be a "Tissue-Builder." "Resistant to Toxic Influences, is indicated in all conditions when the organism is below the normal standard." "Special conditions: neurasthenia, exhaustion, wasting diseases, anemia, marasmus, malaria, asthenia and as a general antitoxic agent." It is stated to be "a perfectly harmless antitoxin, tissue-builder, blood-purifier and digestant": it "represents the active principles of life." Is more claimed for any "patent medicine" advertised in the daily papers? Yet this is one of the many proprietary preparations the advertisements of which fill the pages of the lower class of medical journals. It must seem to any thinking physician extraordinary advice to recommend the administration of a preparation containing thyroid, the most powerful tissue-destroying drug known, to patients suffering from typhoid or phthisis—conditions in which the physician is supposed to be exerting every effort to build up the tissues. However diluted the thyroid may be and with whatever other "active principles of life" (!) it may be mixed, no conscientious physician would care to use it unknowingly.

Twenty-fifth and E Streets N.-W.

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[5] "Protonuclein Special," recommended chiefly for local use or internally in half the dose of the ordinary protonuclein, is stated to "represent the pure nuclein and nucleoalbumen unmixed with milk sugar." It contains twice as much thyroid as the ordinary powder. Like arbolum, etc., it is stated to be "perfectly harmless."

ABSTRACT OF DISCUSSION.

Dr. Torald Sollmann, Cleveland, O.: Dr. Marine of Cleveland, by an entirely different method, has arrived at conclusions practically identical with those of Dr. Hunt as to the dependence of the thyroid on its iodin content. Taking up a somewhat different phase of the subject he finds that the physiologic structure of the gland corresponds to the iodin content. This is, therefore, an index of the degree of activity. This means that preparations containing a low amount of iodin have been taken from the thyroids of diseased animals, and in using them we are giving homeopathic treatment—giving diseased thyroid to cure diseased thyroid. I think that this is a very important point and that manufacturers have not paid to it the attention which they should. By mere inspection, they can recognize the thyroids which are of normal iodin content and these alone should be used. Thyroids of low iodin content are probably of little value and perhaps harmful.

Dr. Frank T. F. Stephenson, Detroit, Mich.: I have been doing some clinical experimental work on thyroids in combination with the sulphocyanids. My attention was drawn to this line of work by the writings of Pauli, an Italian author. He calls attention to the fact that there is a sort of complementary relation in the sulphocyanid in the saliva to the metabolism of the body, and mentions some probable reasons for its existence in the animal economy. If some of the members of this Section are looking for a fruitful field of work, a little investigation on the sulphocyanids in relation to animal economy offers possibilities. I am sure, after six months' experimental work of my own, that such a research will offer many interesting facts, but I have nothing to report now. I have a patient, a retired photographer, who a little while ago weighed 319 pounds. He has been receiving a large amount of advertising from a quack of Battle Creek, Mich., in reference to an obesity cure. A woman came to him to have her picture taken and then wanted a fake picture showing her very fat, which was worked by padding her out with pillows, etc. She stated that she wished to send this picture to some relatives out west as a joke. My patient recognized the cuts in some advertisements as made from this photograph. It was rather unfortunate for the quack that the cuts should come back to the very photographer who made the picture, and was in need himself of obesity treatment. The Marmola people are not taking any chances of not getting results. They have loaded their product with a large amount of thyroid as well as with *Phytolaca decandra.* The manufacturers are a Detroit concern, "we are proud to say." They have recently consulted me to see whether they can not use some preparation of thyroid other than the sheep's thyroid, as they are finding this rather expensive. They thought of trying the thyroid of the calf.

Mr. F. C. Koch, Chicago, Ill.: The commercial thyroid preparation I examined was the desiccated product from normal sheep's glands, as we discard all the goitrous ones. I found, as Dr. Hunt says, a variation of 300 per cent. in the iodin content, it being highest in the winter and lowest in the summer months. I am now continuing this work on the thyroids of other animals in order to see whether we find the same variation there.

Treatment of Alopecia with Venous Hyperemia.—Several French dermatologists have reported good results in treatment of alopecia areata by application of an elastic band around the skull just above the ears or around the neck. In a recent communication to the French Dermatologic Society, Troisfontaines reported three typical cases. One of the cases was that of a boy, thirteen years of age, who wore the elastic band drawn so tight that the top of the skull was very much congested, the band concealed by his cap. All the bald patches rapidly became covered with hair, while the patches at the back of the neck below the band or compressed by the band still remained bald. In this case the band was worn for two six-hour periods during each twenty-four hours.

MIOTICS VERSUS IRIDECTOMY IN THE TREATMENT OF SIMPLE CHRONIC GLAUCOMA.

AN ANALYTICAL STUDY OF 65 CASES TREATED BY MIOTICS OVER A SERIES OF YEARS.*

WILLIAM CAMPBELL POSEY, M.D.
PHILADELPHIA.

In 1906 I presented a paper before the Section on Ophthalmology on "The Treatment of Simple Chronic Glaucoma by Miotics",[1] in which attention was called to the very satisfactory results which attend the use of these drugs in this variety of glaucoma, and their more intelligent and persistent administration was urged. It was pointed out that "while the results of operation are known to be less favorable in simple chronic glaucoma than those obtained in other forms of this disease, yet it is almost commonly conceded that even in this type iridectomy gives a better chance for retaining vision than any other form of treatment."

It was questioned, however, whether there is positive evidence that miotics are of less value than iridectomy in the treatment of chronic glaucoma, as no statistical study had ever been made of a series of cases of this variety of glaucoma which had been treated by miotics long enough or in sufficiently great numbers to permit a comparison to be made with series of cases which had been operated on by iridectomy. I referred, in this connection, to a study which had been made of 167 cases of chronic glaucoma taken from the records of the Wills Eye Hospital, by Dr. William Zentmayer and myself in 1895, and I remarked that while many of these cases had been observed over a very protracted period, the miotics which were employed were doubtless administered indifferently in many instances, so that the full advantage which might have been gained from them was not obtained in any of the cases.

Notwithstanding this failure to obtain a maximum effect from the miotics, the comparison which was made between the medicinal and operative form of treatment, and which was based on a careful analysis of all the cases, was very favorable to the former.

Among the conclusions which were arrived at may be cited the following:[2] "When the drug was well borne it was found that the central visual acuity improved in 62.16 per cent. of the cases, while it remained unaltered in 21.62 per cent. In only 16.21 per cent. did the vision diminish, the drug being powerless to prevent it. Its influence on the extent of the visual field was not so great as on the degree of visual acuity, for an improvement was noted in the former symptom in but 50 per cent. of the cases. The field remained stationary in 18.75 per cent., while in 31.25 per cent., it steadily diminished. Contrasted with these figures are those obtained from a study of the cases on which iridectomy was performed. As a result of this procedure, vision was improved in 60 per cent., and remained the same in 20 per cent. of the cases. In another 20 per cent. the operation failed to prevent the loss in visual acuity. The extent of the visual field was increased in 30 per cent., and remained unchanged in 20 per cent. and diminished in 10 per cent."

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* Read in the Section on Ophthalmology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

*Because of lack of space, this article is here abbreviated by the omission of the histories of the cases and the diagrams of the fields of vision. The complete article appears in the Transactions of the Section and in the author's reprints.

[1] The Journal A. M. A., 1907, xlviii, 676.

[2] Wills Eye Hosp. Rep., 1895, i, No. 1.

The limitations of these conclusions were, however, recognized, though it was asserted that from observations which I had made over a very considerable number of cases, both in private and dispensary service, since the publication of the report 12 years previously, that I was convinced that were it possible to compare an equal number of cases which had been subjected to iridectomy and to the action of miotics, properly administered over a similar period, the results would be shown to be far greater in favor of the former.

The present communication is offered in proof of this assertion, inasmuch as I have been enabled to collect sufficient and suitable data from cases of simple chronic glaucoma treated by miotics, which were observed in my own practice and from notes generously given me by colleagues, to render a comparison with a similar series of cases treated by iridectomy possible.

I desire at this point to publicly acknowledge my indebtedness to the gentlemen who aided me with their cooperation, as without their notes, such a statistical study would have been impossible, for one observer can scarcely acquire sufficient data from his own practice to draw conclusive results. As a rule, only private cases can be depended on for statistical purposes, for there are but few hospital patients who can be trusted to follow the miotic treatment. Again, chronic simple glaucoma is uncommon, and since as a rule, it affects those who are advanced in years, death often ensues before observations can be extended over many years, even when the subjects of the disease remain constant in their attendance on one surgeon.

TABLE 1.

Showing Length of Time Under Observation.

16 years	1 case
15 years	2 cases
13 years	3 cases
12 years	2 cases
11 years	2 cases
10 years	2 cases
9 years	1 case
8 years	5 cases
7 years	4 cases
6 years	6 cases
5 years	7 cases
4 years	8 cases
3 years	6 cases
2 years	9 cases
1 year	7 cases

Sixty-five cases have been analyzed, all, so far as it was possible to ascertain, being pure types of simple chronic glaucoma. It is necessary, however, to refer once more to the difficulty there is in distinguishing between this variety of glaucoma and atrophy of the optic nerve with excavation. All of the cases which are reported, however, manifested increased intraocular tension at some time while they were under observation, and all were observed sufficiently often to enable the diagnosis to be established as convincingly as the present state of our knowledge of the pathology of the two affections renders possible.

All were treated by miotics, in most instances in sufficient dose to keep the pupils very small, the strength of the drug being increased from time to time to secure this, which is so essential in order to obtain the desired effect on the intraocular tension.

All but seven of the cases were observed over a period of two years; 12 had been carefully followed for more than 10 years.

The average period of time each patient was under observation was five years and eight months.

As most advocates of iridectomy in simple chronic glaucoma urge the necessity of early operation, and as it is generally recognized that the treatment and the prognosis of the affection is much influenced by the stage in which the disease comes under observation, I have divided the cases into three classes, according to their degrees of development: (1) Beginning cases; (2) moderately advanced cases; (3) very advanced or desperate cases.

Of the total number, 19 are recorded as beginning cases, 28 as moderately advanced and 7 as far advanced cases. The histories of 8 cases are added in which iridectomy had been done on one or both eyes, but always in conjunction with the employment of a miotic. Finally, the notes of two additional cases are given: Of one case, because, though many of the signs of glaucoma were present, the diagnosis of the true nature of the case is in doubt, and of the other as it demonstrates the slow progress of the disease, even without treatment.

Observations could be made of but 110 eyes, 13 out of the 130 which were presented for examination being blind or nearly so from glaucoma, while in two instances the eye was blind from other causes, i. e., sarcoma of chorioid and phthisis bulbi. Five eyes were normal.

Of the 110 glaucomatous eyes it was found that vision had either improved or held its own during the entire time the case was under observation, over a varying period of years, in 88 eyes, or 80 per cent; that there had been a slow deterioration in both central and peripheral vision in 13 eyes, or 11.8 per cent., while in 9 eyes (8 per cent.) the miotics seemed to exert no influence whatsoever on vision, the eyes going gradually blind, and passing into absolute glaucoma. The form field was maintained as long as the case was under observation in 51 eyes, or 45 per cent. Loss in form field was observed in 59 eyes, or 55 per cent. The average length of time vision was maintained in each case was 5 years and 3 months.

TABLE 2.

Vision and field improved in 3 eyes for a period of 2 years.
Vision and field improved in 1 eye for a period of 5 years.
Vision improved but field contracted in 1 eye during period of 1 year.

TABLE 3.—NORMAL VISION AND NORMAL FIELD MAINTAINED.

Beginning cases.

In 4 eyes for 13 years.
In 2 eyes for 12 years.
In 2 eyes for 11 years.
In 1 eye for 8 years.
In 1 eye for 7 years.
In 2 eyes for 6 years.
In 4 eyes for 5 years.
In 3 eyes for 4 years.
In 2 eyes for 3 years.
In 3 eyes for 2 years.
In 2 eyes for 1 year.

TABLE 4.—NORMAL VISION MAINTAINED, BUT WITH CONTRACTED FIELD.

(a) Beginning Cases (11).

In 1 eye for 16 years.
In 1 eye for 10 years.
In 1 eye for 8 years.
In 3 eyes for 6 years.
In 1 eye for 5 years.
In 4 eyes for 4 years.

(b) Moderately Advanced Cases (23).

In 1 eye for 15 years.
In 2 eyes for 12 years.
In 3 eyes for 3 years.
In 1 eye for 6 years.
In 3 eyes for 5 years.
In 4 eyes for 4 years.
In 4 eyes for 3 years.
In 4 eyes for 2 years.
In 1 eye for 1 year.

(c) *Far Advanced Cases* (2).

In 1 eye for 15 years.
In 1 eye for 4 years.

TABLE 5.—BOTH CENTRAL VISION AND FIELD REDUCED AT TIME OF COMMENCEMENT OF TREATMENT, BUT BOTH MAINTAINED WHILE CASE WAS UNDER OBSERVATION.

(a) Moderately Advanced Cases (13).

In 2 eyes for 8 years.
In 2 eyes for 5 years.
In 3 eyes for 4 years.
In 4 eyes for 4 years.
In 2 eyes for 2 years.

(b) Far Advanced Cases (7).

In 1 eye for 3 years.
In 5 eyes for 2 years.
In 1 eye for 18 months.

TABLE 6.—SLOW DETERIORATION IN BOTH CENTRAL AND PERIPHERAL VISION.

(a) *Beginning Cases* (4).	(b) *Moderately Advanced Cases* (9).
In 2 eyes for 8 years.	In 2 eyes for 10 years.
In 2 eyes for 4 years.	In 2 eyes for 8 years.
	In 3 eyes for 2 years.
	In 1 eye for 1 year.
	In 1 eye for 2 months.

TABLE 7.—MIOTICS POWERLESS TO PREVENT LOSS OF VISION, BLINDNESS ENSUING.

1 eye going blind in 6 years (beginning case).
1 eye going blind in 5 years (moderately advanced).
1 eye going blind in 4 years (moderately advanced.)
2 eyes going blind in 3 years (moderately advanced).
2 eyes going blind in 2 years (beginning case).
1 eye going blind in 2 years (moderate).
1 eye going blind in 18 months (moderate).

Iridectomy was performed on 11 of the 68 cases. Two doubtful cases maintained vision 3 years. Four beginning cases maintained vision 14 months (miotics useful in other eye); one, 6 years (miotics useful in other eye); another, 18 months (miotics useful in other eye); iridectomy powerless in one case.

Five moderately advanced cases: Maintained vision 2 years in 1 case after visual acuity had been raised by miotics; 6 months in 1 case after miotics had failed; 10 months in 1 case after miotics had failed; 1 year in 1 case after miotics had failed; 6 months in 1 case after miotics held the disease in check 3 years.

Such are the figures obtained from an analysis of 110 eyes treated by miotics. The interesting question now arises, how do they compare with similar series treated by iridectomy?

Fortunately, there are available for this purpose two groups of cases which are admirably adapted to a comparative study, for Bull, of New York, in 1902, gave the postoperative history of 50 cases of simple chronic glaucoma, before the American Ophthalmological Society, and last year before the same society gave the history of 60 additional cases. All of the cases of both groups had been under observation for varying periods and all occurred in Bull's own practice. This series, therefore, possesses a peculiar value, as the expression of the personal experience of one of America's most eminent surgeons and observers, and may be taken as a fair index of the maximum effect which may be gained by iridectomy.

In Bull's first series (50 cases, 94 eyes iridectomized), there was a maintenance of the existing vision at the time of operation while under observation in 24 eyes, or 25.5 per cent., and a gradual failure in 58 eyes or 61.7 per cent. The average length of time the maintenance of vision was noted in any given case was 2 years and 5 months.

The form fields remained as they were at the time of operation in seven cases (14 per cent.), which were under observation for a period ranging from 15 months to 11 years, but became more contracted in 60 eyes. Absolute glaucoma resulted in 11 eyes. Total loss, 75.5 per cent. Average length of time each case was under observation was 4 years and 11 months.

In Bull's second series (60 cases, 115 eyes iridectomized), the average length of time each case was under observation is not mentioned, the general statement being made of from 5 to 11 years.

Vision—Temporary improvement in central vision in 14 eyes, 12 per cent.; no permanent improvement in central vision in any eye; maintenance of vision for a period of years (the longest being 8 years) in 21 eyes, 18 per cent.; gradual failure in central vision in 94 eyes, about 70 per cent.

Field—No maintenance of field while case was under observation in any case. Steady increase in the concentric narrowing of the field in 92 eyes. In 16 eyes the final result was absolute glaucoma. Total in which field sank, 108 cases, or 90.3 per cent.

Summary.—Apparent arrest of the progress of the disease as to central vision, condition of the field and tension in 21 eyes, or 18.2 per cent.; 16 eyes passed into absolute glaucoma.

When comparison is made of both of these series with that analyzed by me, it will at once appear that miotics exerted a much more beneficial influence than iridectomy. Thus, if central vision is considered, it will be found that in my series, each case of which was observed over an average period of 5 years and 8 months, vision was maintained in 80 per cent. of the cases, to 25 per cent. in Bull's first series and to 18 per cent. in his second; while there was a loss of central vision in 20 per cent. of my cases to 61 and 70 per cent. of Bull's first and second series respectively, each case in his first group being observed over an average period of 2 years and 5 months, while those in the second group were noted as being observed over a period ranging from 5 to 11 years.

Miotics exerted a more favorable influence on the form field also than iridectomy, the field being maintained as long as the case was under observation (each case an average of 5 years and 8 months) in 45 per cent. of my series, while the same was true of but 14 per cent. of Bull's first series (over an average period of 4 years and 10 months for each case), while in the second series there was no maintenance of the field while the case was under observation in any instance. In Bull's first series, 11 eyes passed into absolute glaucoma, in the second, 16 eyes, while in my series only 9 eyes became totally blind.

There are other groups of cases, also, which may be used for purposes of comparison. Of these by far the most interesting for the purposes of this paper are the observations of Schleich, in Tübingen, which were based on the study of 102 cases which had been iridectomized and of 46 cases treated by miotics. In the series of cases which were submitted to operation, vision became worse immediately after the iridectomy in 30 per cent. of the cases, and of this number 26 per cent. became totally blind in a short time, the remainder growing gradually worse, with the exception of 3 per cent. in which vision after the first loss was maintained. Of the 70 per cent. who did not show an immediate deterioration of vision after the operation, sight remained unchanged for 2 years and even longer in 21 per cent., but there was a gradual loss in 79 per cent. In other words, 7.8 per cent. became blind directly or shortly after the operation; vision gradually failed in 76.5 per cent., being maintained in only 15.7 per cent. for a period of at least 2 years. In the 46 cases treated by miotics, the results were more favorable, as vision was maintained in 39 per cent., progression of the disease being observed in the remaining 61 per cent.

Another valuable communication is by Karrewiz, who reviewed the operations performed for the relief of glaucoma by Koster, in the Ophthalmic Clinic in Leyden during a period of 10 years. The results obtained in other forms of glaucoma are foreign to the scope of this paper and will not be dwelt on, of 20 eyes, however, with chronic glaucoma, which were iridectomized, record is made that vision was improved or remained *in statu quo* in 75 per cent. and diminished in 25 per cent.

Of the 75 per cent. in which loss of vision did not follow the operation, the visual acuity soon diminished in 74 per cent. of the cases, a lasting improvement being observed in but 26 per cent. Tension remained normal in 79 per cent. of the operated cases, increasing after the operation in 11 per cent. from various causes. Notwithstanding the good effect on tension, the vision in 53 per cent. of the cases, in which tension was benefited, deteriorated.

Although giving no figures to support his statement, Koster's experience with miotics in patients refusing operation leads him to conclude that while there are cases which can be held in abeyance by drugs, they are very exceptional, and that under their use glaucoma progresses steadily. He admits their value, however, both before and after operation.

In a discussion on the therapy of glaucoma before 66 eyes, for various reasons, could be utilized in preparing statistics. von Hippel is of the opinion that the long continued use of miotics in chronic glaucoma is dangerous, inasmuch as it obscures the symptoms and prevents iridectomy being done sufficiently early. He believes that they should not be used before the operation, therefore, but employs them regularly and continuously after operation, as he is convinced that they exert an appreciable effect in preventing the progress of the glaucomatous process. In no case was central vision diminished by the operation, notwithstanding that many of the cases operated on by him had markedly contracted fields and pronounced cupping of the disc. The summary deduced by von Hippel from his statistics is as follows: Forty-one per cent of the cases operated on showed no aggravation of symptoms after 2 years: 20 per cent. showed none after 5 years; 14 per cent. after

Table of Comparison of Series of Cases of Chronic Glaucoma Treated by Miotics and by Iridectomy.

	Zentmayer and Posey; 167 Cases.		Posey's series: 110 Eyes. (Miotics.) Per cent.	Bull's First Series; 94 Eyes. (Iridectomy.) Per cent.	Bull's Second Series; 115 Eyes. (Iridectomy.) Per cent.	Schleich.		Koster; 20 Eyes. (Iridectomy.) Per cent.	Grosz; 62 Cases. (Iridectomy.) Per cent.	Uhthoff. (Iridectomy.) Number of Cases not Mentioned. Per cent.	Hippel. 66 Eyes. (Iridectomy.) Per cent.
	Miotics, Per cent.	Iridectomy, Per cent.				102 Cases. Iridectomy. Per cent.	16 Cases. Miotics. Per cent.				
CENTRAL VISION.											
Maintained in..	84	80	80 on an average of 5 yrs. and 3 mos. in each case.	25 on an average of 2 yrs. and 5 mos. in each case.	18	15.5	39	26	70 "Favorable result attained." Details of what constituted "a favorable result" not given.	56 (Actual improvement of V. in 5).	14 "Cured for the present." 41, no aggravation of symptoms after 2 years. 20, no aggravation of symptoms after 5 years. 14, no aggravation of symptoms after 10 years. 9, no aggravation of symptoms after 14 years.
Gradually lost in	16	20	20	61	70	76.5	61	74		50 (40 gradual; 10 rapidly.)	26, slow loss in vision. 20, went blind in spite of operation.
FORM FIELDS.											
Maintained in..	68.70	50	45	14	0						
Gradually lost in	31.25	10	55	75	100						
Average period of time each patient was under observation. .	....	...	5 yrs and 8 mos	4 yrs and 10 mos	5 to 11 yrs.						

mately 40 per cent, and grew much worse in fully 10 per cent.

In the discussion of Schleich's paper, Königshofer said that as years go by he has grown to doubt the value of iridectomy, and he treats all cases first with miotics, iridectomy being resorted to as a last resort. He has even seen loss in the visual fields gradually improve under miotics. Adamük,[3] referring to Wygodski's contention that it is necessary to operate in cases of glaucoma as soon as possible, and even in the prodromal period, maintains that although originally he had been a strong advocate of iridectomy, since the development of the miotic treatment and particularly with the ability to secure good miotics, he doubts the value of operative interference in these early and prodromal periods. No matter how correctly the iridectomy may be performed, it gives rise to a certain diminution of visual acuity. After the operation the patients are more disposed to atrophy of the optic nerve, not to mention the complications of hemorrhage, explosive and otherwise, which may occur during the operation. Fully admitting the great utility of iridectomy, he does not think that it is applicable to all the cases from the very start, but that first there should be medicinal treatment, and if this is faithfully carried out the necessity for operation will grow less frequent.

It is interesting to note that this distinguished ophthalmologist, who died in September, 1906, shortly after the publication of the above, had been a sufferer from attacks of glaucoma from the age of 36 years, which were always readily combated by eserin, normal vision being retained by the miotics until his death, which occurred 31 years after the first attack.

In addition to these foreign statistics and expressions of opinion, a number of our own countrymen have given voice to their views regarding the various forms of treatment of chronic glaucoma. Lack of space prevents detailing what these views are, but those who are interested are referred to papers by Bull and Weeks before the American Ophthalmological Society in 1902, and to the discussion of their papers by Gruening, Theobald, Pooley, Chandler, Standish and Ring; to the discussion of my paper[1] by Weeks, Bull, de Schweinitz, Wilder and Callan; to a paper by Risley[4] on "The Surgical Treatment of Chronic Glaucoma," and finally to a paper by Cheney,[5] of Boston, and to the discussion which it evoked by Hansell, Zentmayer, Ziegler, Veasey, de Schweinitz, Risley and myself.

From a careful consideration of the views, both of these latter and of foreign observers, it is apparent that while a better technic has improved the results which are attained by iridectomy in skilful hands, and while there are some who still maintain the greater value of this procedure over any other means of therapy, the miotic form of treatment is gaining in adherents, and that those even who prefer iridectomy, insist on the adminstration of miotics after the operation has been performed, acknowledging their belief in the power of such drugs to control the glaucomatous process. While I do not believe that the series of cases which I have collected offers absolute proof of the superiority of the miotic over the operative form of treatment, its comparison with the percentages obtained by iridectomy makes it appear at least likely that such is the case. The types of the disease are so varied, however, and there are so many factors which are misleading in the compilation of statistics of cases of chronic glaucoma, that it is very desirable that very many other cases and groups of cases both of those treated by iridectomy as well as by miotics, should be followed and carefully studied over long periods of years. I venture to suggest, therefore, that the Section may undertake a compilation of further statistics under its own auspices, the members following their cases of chronic glaucoma as carefully and as long as possible, making frequent and accurate notes of the course of the disease, so that their reports may be available for statistical purposes.

Just as the advocates of iridectomy find beginning cases to be more amenable to treatment than those in more advanced stages of the disease, so cases treated by miotics from the early stages give better percentages in so far as the maintenance of central and peripheral vision is concerned. Thus, of the 19 cases recorded as "beginning," vision deteriorated in but 4 and even then only after a considerable period, a slow deterioration in both central and peripheral vision being noted in one case over a period of 8 years, and in another over a period of 4 years. Absolute glaucoma supervened in but two cases which were under observation from their very incipiency, miotics being powerless to prevent one eye going blind in 6 years and another in 2 years. In view of such favorable statistics from the use of miotics alone, and with the possibility of error in the diagnosis complicating the situation and iridectomy being performed upon merely atrophic nerves, is operation ever justified when both central and peripheral vision are normal, without trial of what miotics can do?

As argument against the propriety of early iridectomy, two cases may be cited, in one of which though the nerves presented all the signs of a commencing glaucomatous excavation, and the sclera were distinctly rigid, typical glaucoma cups never developed, though the case was observed for eleven years. Eserin was continuously employed, though in weak doses, as I never have felt justified in relinquishing its use. Had an iridectomy been performed on what were still normal eyes, though possessing decided glaucomatous tendencies, it is possible that the eyes might have been lost, or sight at least impaired by the procedure, whereas vision is still normal. Vision is still safeguarded in both eyes by a miotic, the continuance of this treatment demanding nothing more of the patient than a few moments' attention to dropping night and morning.

The second case was under observation for fifteen years, and during the past nine years of this period typical glaucomatous cups, with all the other signs of advancing glaucoma, slowly manifested themselves. Miotic treatment was prescribed, but was not persisted in, so that the patient was practically without treatment. Notwithstanding this, however, central vision is still normal in one eye, and almost so in the other, while the fields of vision are not greatly restricted. The patient is now 79 years of age, and has had the uninterrupted use of his eyes during the entire period of the development of the glaucoma. An iridectomy might have robbed him of his sight or might, at least, have occasioned hemorrhage or other complications which would have seriously interfered with vision.

In the 28 "moderately advanced" cases, 9 eyes showed slow loss of vision, while blindness supervened in 6. The best results of all, however, were attained in the "far-advanced" or desperate cases, for of the 7 so designated, all maintained vision in a very remarkable man-

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3. Ophth. Year Book, 1907, p.198.
4. THE JOURNAL A. M. A., 1907, xlix, 291.
5. Ophthalmology, April, 1907.

ner, and in several instances over a long period of years, the most remarkable example of this being Case 48, the details of which were reported fully[6] in June, 1906.

As even the most enthusiastic advocates of iridectomy realize the danger of operating on cases in this stage of the disease, all can at least agree that in the treatment of this type of cases miotics should be employed energetically and continuously, the pupils being kept at pinpoint contraction.

A number of the cases were seen from their very incipiency, the glaucomatous cupping of the head of the nerve being preceded in each instance by a low-grade neuritis, similar to that noted by Zentmayer and myself[7] thirteen years ago. Miotics were employed early in all these cases, but notwithstanding their energetic use, the glaucomatous process slowly became more manifested in each case, the excavations extending and deepening, the chambers becoming shallower and the sclera more rigid. While the disease in each instance gave decided evidence of progression, vision, however, and the visual field remained normal, showing that the glaucoma, while not entirely checked by the miotics, was in any event greatly retarded in its progress. Miotics can not, therefore, be regarded in any sense as curative, and must be relied on solely as measures which may hold chronic glaucoma in abeyance.

In conclusion, I desire to emphasize what I have already said elsewhere: First, that miotics should be relied on as the sole means of treatment only in those cases which are free from attacks of so-called "glaucomatous congestion," the presence of such congestive symptoms being in my opinion the chief indication for iridectomy; and second, that to gain the full benefit of miotics it is necessary that they should be administered properly. Beginning in doses small enough to avoid creating spasm of the ciliary muscle, and rapidly increasing the dose until the pupil of the affected eye is strongly contracted, this degree of contraction should be maintained as long as life lasts by gradually increasing the strength of the solution, from time to time, and by instillations of the drug at intervals of every three or four hours. Conjunctival irritation may be avoided by employing only fresh and sterile solutions of the drug. Suitable cleansing washes should be administered, and attention given to the general health and especially to the condition of the blood vessels. Careful and repeated correction of the refraction error should be made and restrictions enjoined on the use of the eyes.

NOTE: As stated in the footnote at the beginning of the article, the reports of sixty-two cases are omitted from THE JOURNAL.

ABSTRACT OF DISCUSSION.

MR. E. TREACHER COLLINS, London, Eng.: The fact that the earlier the miotic treatment is commenced the better the results as to arrest of the glaucoma is perhaps what one might have expected, but I do not know that it has ever been brought out in this way. The earlier the operation, also, the better the arrest of the glaucoma. The reason iridectomy fails is that the root of the iris becomes so adherent to the back of the cornea that instead of drawing away at the extreme periphery it draws away from it where it ceases to be adherent and the root of the iris still blocks. The same applies to the miotics in the late stage; they fail to break down the adhesions and so to give relief.

When I passed from the pathologic laboratory to clinical work I did so with the determination of doing iridectomies as early as possible, but clinical experience has led me to modify that position. I do not think that we can lay down any hard and fast rule and say that miotics should always be used. The matter requires considerable judgment, I think. Cases in which I reserve iridectomy are those of patients who I think will not remain under observation and those in which miotics have been tried and in which, in spite of the miotics, slight increase of tension from time to time manifests itself as seen in slight halos or continued contraction of the field of vision. If we try the miotic treatment we need to have our patient come very regularly and need to have one who will absolutely carry out the directions we give him. One of the most successful cases I ever had in which the miotic treatment was employed was that of a clerk who used the miotic treatment and for six years kept the condition in check perfectly. In employing the miotic treatment, besides the application to the eye, we should give some general directions to the patient.

If you study the clinical history of glaucoma patients you find that the exacerbations often depend on some definite cause. One of these is emotional excitement, or the effort to suppress the emotions. I have a patient who, if he goes to a play that affects him much, has an attack of rainbow-color vision, so that I have forbidden him anything but light opera bouffe. I have also found that the exacerbations follow chill. Then very often we find a slight obscuration of vision coming on in the latter part of the day and disappearing in the morning; the night's sleep suffices to produce lowering of the tension. I recommend these patients to take as much sleep as they can get. Anything that is likely to congest the head, such as stooping or straining at the stool, is to be avoided: in fact, any hurry and worry. From what I have seen of New York and Chicago I should say that those places are the worst possible for glaucoma patients.

DR. CHARLES S. BULL, New York: The justness of our conclusions as to the value of any method of treatment is always limited by the number of cases at our disposal for comparison, and we still need a larger number of cases on which to base our conclusions. Dr. Posey has justly said that only private cases can be depended on for statistical purposes. Another of our limitations is that simple chronic glaucoma is not a common condition. I do not think it wise or scientific to regard simple chronic glaucoma as a disease. It is rather a syndrome or complex of symptoms, and we must be sure of our diagnosis and clearly differentiate chronic glaucoma from atrophy of the optic nerve with excavation. As an advocate of iridectomy, I recognize the wisdom of Dr. Posey in dividing the cases into three classes for operative purposes. I reject absolutely the moderately advanced cases and the very advanced or desperate ones. I never advise operation except in the earliest stage. The patients must be examined carefully and frequently and at short intervals of time. It is necessary to examine the field minutely and to interrupt this examination at times in order to avoid inducing fatigue of the retina. The tension must be tested at different times in the day, especially late in the day or in the early evening. The moment that we are able to determine a persistent slight narrowing of the field on the nasal side, the slightest permanent increase of tension in the morning hours, and an excavation of the disc on the temporal side, which shows an overhanging tendency, then I advise immediate operative interference. I still believe that, with the strictest observation of the above rules, the operation will give the better permanent results, but we must have a much greater number of cases, all examined with the greatest care and persistence, by skilled observers, before we can draw permanently valuable conclusions.

DR. CLARENCE PORTER JONES, Newport News, Va.: I had a patient, a colored man, aged 52, who had had glaucoma symptoms of three years' standing, pain, plus tension, and some cupping of the discs. Vision, however, was 20/30 in each eye. The diagnosis of chronic double glaucoma was made by a Philadelphia oculist who referred the patient to me for treatment. The oculist wrote, advising iridectomy on each eye. The good vision aroused my suspicion and I, therefore, examined the patient for reflex disturbances. He was found to have a tense urethral stricture at the internal meatus. He gave a history of difficult urination for five or six years past. This was dilated and treated by one of my friends in genitourinary practice and resulted in a *marvelous cure*. This occurred nearly two years ago and the man now is absolutely free from any glaucomatous symptoms.

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[6] THE JOURNAL A. M. A., 1907, xlviii, 676.

[7] Wills Eye Hosp. Rep., 1895, i, No. 1.

Dr. N. M. Semple, St. Louis: I have a case under observation which speaks for the great value of iridectomy. It is simply an additional case, first seen in October, 1902, giving a history of gradual contraction of the fields of vision for the preceding nine months, during which time both eyes had been under treatment by miotics. There was no history of an inflammatory attack of any kind. Examination showed central vision right eye 20/15, left 20/24; complete loss of nasal half of both fields down to the maculae; temporal halves fairly well retained; good anterior chamber and regular pupils. There was no positive demonstrable increase of tension but decided cupping of both discs. An iridectomy was done on the left eye, which was the worse. Since then the patient has been under observation at varying intervals. Pilocarpin has been constantly used in the unoperated eye. The iridectomized eye has received no treatment. Following the iridectomy the left eye showed slight increase in the field of vision; central vision 20/30. This condition has persisted five years. The right eye has been under constant and faithful use of pilocarpin but has shown a gradual, but persistent diminution in the field of vision and also lowering of central vision until at present the patient is entirely dependent on the iridectomized eye.

Dr. John Green, St. Louis: In support of Dr. Posey's views permit me to record three cases of glaucoma simplex. *All occurred in private practice*, one in my own and two in that of my father. The first was a case of a woman aged 62, under observation eleven years. The right eye was blind from staphyloma; in the other, vision failed in the course of the eleven years from 15/20 to 15/30. There was moderate contraction of the field, narrowing only 5 to 10 degrees while under observation; good reading vision at death. The second was the case of a woman aged 55, under observation seven years. The right eye vision failed from 15/24 to 15/48, the left 15/60 decreased to perception of light. The fields greatly contracted at first examination. While under observation the right field contracted to within 10 degrees of the fixation point, the left field to the fixation point. The third patient was a woman aged 30, under observation five years. The right eye vision was 15/24, increased to 15/15; the left eye was blind from glaucoma when first seen; the right field was slightly contracted. While under observation the appearance *of peripheral sector defects was noted*.

The eserin alkaloid in castor oil in my hands, has been very efficient and does not evoke any irritation of the conjunctiva. I generally begin with a strength as low as 1/10 of 1 per cent and this can be increased as indicated. It is advisable to vary the salt of eserin from time to time and I have been inclined to a little tablet prepared in England of eserin salicylate gr. 1/500 and tropa cocain gr. 1/100. I also order pilocarpin in aqueous solution instilled several times a day in strength varying from 0.5 to 2 per cent. Dr. Posey has mentioned the preglaucomatous stage. That is the stage of optic nerve head congestion, or, as he terms it, a low grade optic neuritis. It has seemed to me that we fail in our duty to such patients if we do not, especially in incipient cases, have a searching examination of the patient's general condition made to ascertain if there be not some constitutional dyscrasia back of the glaucomatous condition. I have in one case at least thought that I found a connection between an intestinal autointoxication and the nerve head congestion of the early stages of glaucoma simplex.

Dr. J. M. Ray, Louisville: I think that the age of these patients has a good deal to do with the method of treatment. I believe that in chronic glaucoma in people over 60 we are much more likely to get beneficial effects from the miotic treatment than in people under 60. In cases in which the increased tension is constant an iridectomy is indicated. In intermittent cases or those in which we can get the proper effect from eserin we need not operate. This has been impressed on me in the last year by the case of a woman of 45, with chronic glaucoma of one eye and no tension at the time I saw her. Later she consulted a colleague who did an iridectomy. It was not an ideal one, the incision was far in the cornea and there was an incarceration of the iris. All went along nicely for about a year when she developed symptoms in the other eye and in that eye she had decided increase of tension. I did what I thought an ideal iridectomy, taking out a large section of the iris back to its base. Notwithstanding, the second eye went on to deterioration while the first eye still maintains useful vision. So I think that the amount of increase of tension has much to do with the prognosis either with or without an operation.

Dr. W. C. Posey, Philadelphia: One thing which I think may be learned from these figures is that chronic glaucoma is not the desperate disease it was formerly considered. For instance, in 110 glaucomatous eyes it was found that vision either improved or held its own during the entire time the case was under observation, while in 88 eyes there had been slow deterioration in both central and peripheral vision in but 13 eyes. Again in the moderately and very advanced cases which have been regarded as especially desperate and incurable and in which iridectomy is generally regarded as being unwise, even in the 28 cases of that class but 9 showed slight loss of vision, while blindness intervened in but 6. Indeed, the best results were attained in the very advanced cases. Of 7 all maintained vision in a remarkable manner and in several instances over a long period of years.

Miotics should be relied on only in those cases free from attacks of so-called glaucomatous congestion. The presence of such symptoms is an indication for operation. In the application of the miotic I think it should be the aim to keep the pupil at pin point contraction. For this purpose it should be used, let us say, at least four times a day, in the morning, at noon, at 6 o'clock p. m. and at bedtime. It is my custom to use nitrate of pilocarpin during the day and salicylate of eserin at night. If eserin is used during the day it creates some disturbance of vision by a contraction which it exerts on the ciliary muscle, pilocarpin having less effect on accommodation. Weak doses of the miotic should always be employed, *thereby avoiding spasm of the ciliary muscle*. Thus it is well to begin with ½ or 1 grain solutions of eserin at night and twice that strength of pilocarpin during the day. If the drug be dispensed properly, if the droppers be kept clean and the conjunctival sac flushed frequently with boracic solution, mycotic infection will be avoided and the miotic can be used for years.

FIBROMYOMATA OF THE UTERUS AND ANEMIA

BENJAMIN R. SCHENCK, M.D.
DETROIT

The indications for radical operation in fibroids of the uterus have been widely extended during the past eight years, principally as the result of the careful statistical work of Webster,[1] Noble,[2] Eastman[3] and others. While numerous gynecologists agree with these writers in holding that practically all fibroids should be removed as soon as discovered, many still follow the older, the classical teaching, that there must be *one or* more of five indications present before operation is decided on, the alternative being careful and frequent observation. These indications, as stated with minor variations by Pfannenstiel,[4] Clark,[5] Kelly[6] and Webster,[1] are (1) hemorrhage, (2) pain, (3) rapid growth, (4) complications in organs other than the uterus, and (5) mental anxiety.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, *at the Fifty-ninth Annual Session*, held at Chicago, June, 1908.

1. Am. Med., March 11, 1905.
2. The Journal A. M. A., xliii, [illegible], 2065.
3. The Journal A. M. A., Oct. 21, 1905, xlv.

Of these indications, hemorrhage is the most frequent. However, there are few exact statistics as to the frequency of this symptom, for the reason that there is no exact definition of what constitutes hemorrhage. Winter[7] states that it occurred in about two-thirds of his 1,000 cases. Hunner[8] found bleeding as a symptom in 56 per cent. of 100 consecutive cases. Pace,[9] at Florence, noted 55 per cent. in 118 instances of interstitial growths and 50 per cent. of 52 tumors of the subserous variety. Noble[2] says that his own experience would not indicate so large a percentage as that given by Winter. It is evident from these figures, as well as from general experience, that hemorrhage leading to some degree of anemia is present in from 50 to 60 per cent. of all uterine myomata.

The more important question, namely, the proportion of cases in which there is *an anemia sufficiently grave* to influence the advisability of operative intervention, is not so easily answered. With the exception of a recent paper by Aulhorn,[10] there are no reports of cases in series in which blood counts are systematically recorded. We have, therefore, little reliable data as to the frequency of marked anemia or the results of operations which have been done in the presence of low blood counts. By marked anemia is to be understood an anemia in which *the hemoglobin is 30 per cent. or below.* Every operator has had experience with such cases; few have recorded their experiences. In Hunner's 100 consecutive cases there were nine in which the hemoglobin was below 46 per cent.; it was 33 per cent. in three cases; 22 per cent. in one case. Aulhorn found hemoglobin below 50 in 8 per cent. of 87 cases, and that the operative prognosis is bad if it is below 30 per cent., especially if the leucocyte count is also low.

Individual cases of hysterectomy with low hemoglobins have been published;[11] among them two cases with 25 per cent., reported by F. H. Martin[12] and one case by Noble[2] in which the percentage was 15. Of Hutchins' series of 19 cases[11] with hemoglobin below 50 per cent. there were five in which it was below 30 per cent. DaCosta[13] also mentions a panhysterectomy successfully performed on a patient whose hemoglobin was 21 per cent. Cases such as these are surely much more frequent than one would gather from a perusal of the literature.

With the idea of bringing out the experience of others in this important group, the following cases are reported:

Case 1.—*History.*—R. G., colored, aged 37, admitted to hospital, April 26, 1902. She was the mother of two children, aged 21 and 9 years respectively; had had "numerous" miscarriages at about ten weeks. For ten months she had had an almost constant bloody discharge, had been gradually becoming weak, had lost weight and had suffered from shortness of breath and palpitation of the heart.

Clinical Findings.—Examination revealed a functional heart murmur, a uterus enlarged to the size of a grape fruit, with wide open cervix, and hemoglobin 14 per cent. Three weeks in bed in the open air, together with the administration of iron, brought the hemoglobin to 23 per cent. and the red blood cells to 2,000,000.

On May 19, 1902, I did a supravaginal hysterectomy, which fortunately proved very easy. The tumor was submucous and the size of a large orange. The convalescence was rapid and uncomplicated. On June 20 the hemoglobin was 45 per cent. and in September it was 80 per cent. At this time the heart murmur had disappeared.

Case 2.—*History.*—Mrs. D., aged 34, entered the hospital, May 27, 1902, in a pitiable condition. She gave a history of three years of illness marked by constant metrorrhagia, abdominal pain and difficulty in urination, with now and then attacks of chills and fever. Shortness of breath and extreme weakness were the *prominent symptoms* on admission.

Clinical Findings.—Examination showed a very poorly nourished woman of waxy appearance. There was marked pulsation of the vessels of the neck and edema of the feet and ankles. The apex beat was 10 cm. from the middle sternal line, and the first sound was replaced by a loud blowing murmur. The lungs were negative. The abdomen was dome shaped, somewhat asymmetrical, with marked bulging in the left flank. Palpation showed an irregular, hard tumor, somewhat more prominent on the left side. The hemoglobin was 23 per cent., and the urine contained a small amount of albumin, but no casts.

There was a daily fever, and on June 4 patient had a shaking chill, followed by a rise in temperature to 104. The pulse was 120 and very weak. She was very ill for several days, but on June 10 there was some improvement. On June 27 the following note was made: "Patient has been more comfortable during the past week than formerly. She still has much dyspnea and considerable abdominal pain. The abdomen has changed in appearance since admission. The distention has increased, and it is *now more asymmetrical.* On palpation, two bosses can be felt in the *epigastrium,* separated by a distinct notch. No fluctuation can be made out. The flanks are resonant. Except for the irregularities, the appearance and the consistency of the abdominal enlargement is like that of an eight months' pregnancy. The cervix has ascended and can now be touched by the examining finger with difficulty. There is bulging in the right fornix and obliteration of the left."

On July 1 the blood examination showed red blood cells, 2,272,000; leucocytes, 15,000; hemoglobin, 26 per cent.

Operation.—As there had been little or no gain in the past ten days, an exploratory operation was deemed justifiable. This was done on July 2. Every precaution was taken to save time and reduce shock. A median incision through thin walls revealed extensive adhesions between the anterior abdominal wall and the tumor, which proved to be a symmetrical fibroid the size of an adult head. The upper abdomen was the seat of extensive adhesions. On the right side a mass was found, buried in omental adhesions. This seemed separate from the uterus, midway between the appendix and gall bladder regions. On separating these adhesions, pus appeared, and after about one liter had been evacuated, this mass in the right side disappeared. *None of the cardinal vessels* could be found. The fibroid was grasped on both sides by heavy messeaux forceps and rapidly bisected until the uterine cavity appeared. The top of the fundus was cut across and the walls rapidly whipped together with strong catgut. Rapid through and through closure, with liberal gauze drains.

The patient barely escaped and was afterward very ill, with high fever, rapid pulse, edema and albuminuria. At the end of two weeks, however, she was much improved and finally made an excellent recovery.

Case 3.—*History.*—Mrs. H., aged 54, the mother of three children, was seen first Aug. 30, 1905. She had been suffering with profuse menstruation for three years, had been curetted in May, 1905, with little benefit, and during the summer had had several severe hemorrhages.

Clinical Findings.—There were no other symptoms, except shortness of breath and palpitation of the heart. She was very pale, there was a mitral murmur, which was thought to be functional and the uterus was found to be studded with small fibroids. The cervix was long and its canal patulous. The blood count showed 2 140 000 red blood cells and a hemoglobin percentage of thirty.

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[4] Deutsch. med. Wchnschr., xxx, No. 14.

[5] Progrès. méd., June, 1905.

[6] Operative Gynecology.

[7] Ztschr. f. Geburtsch. u. Gynäk., lv, Olshausen Festschrift.

[8] Am. Med., July 11, 1903.

[9] Zentralbl. f. Gynäk., No. 29, p. 1376.

[10] Zentralbl. f. Gynäk., xxxi, 1600, Winckel Festschrift.

[11] Hutchins: Johns Hopkins Hosp. Bull., November, 1904.

[12] New York Med. Jour., June 17, 1905.

[13] Clinical Hematology.

Operation.—As she was very fleshy, a vaginal hysterectomy was done. The uterus was enlarged about four times and its walls were filled with small fibroids, six of which were submucous.

Except for a rapid pulse during the first ten days the convalescence was satisfactory and she has been in excellent health until last heard from April 1908.

CASE 4.—*History.*—Mrs. X, 47 years of age, the mother of two children aged 18 and 21 years, had never had any miscarriages. Five years before profuse menstruation began. This gradually became worse, until for the past year she was unable to tell when the periods were present, so continuous was the bloody discharge. For two weeks, however, there had been none. There never had been any pain and for the past few weeks only difficult micturition.

Clinical Findings.—When Mrs. X was first seen she appeared desperately ill. She had been in bed for two months, suffering from extreme weakness, shortness of breath, palpitation of the heart and ringing in the ears. She was extremely pale, the pulse was 118 and of very low tension, and there was a loud blowing systolic murmur heard over the chest and well into the axilla. The area of cardiac dulness was much increased. Vaginal examination showed the pelvis choked by a smooth, soft, slightly movable fibroid of regular outline. The cervix was short and the canal patulous. The blood count showed 1 227 000 red blood cells, 20 per cent. of hemoglobin and 9 000 leucocytes. The urine was normal.

Treatment.—The patient was put on iron and strychnin. Her distressing symptoms were somewhat relieved by the end of the second week, when the flowing began again. The hemoglobin remained at 20 per cent.

There seemed to be two courses to pursue—either to pack the uterus and continue the attempt to build up the patient, or to do a hysterectomy. On passing a sound the uterine cavity was found to be 20 cm. in length and tortuous. It was evident that it could not be effectually packed, that it would require weeks to bring about a rise in the blood count, and that during this time there would be great danger of infection. Immediate operation was decided on and supravaginal hysterectomy was done Oct. 21, 1907. Every care was taken to hasten the operation, preserve the body temperature, preserve every possible drop of blood and prevent shock.

Subsequent History.—The convalescence was uneventful and the gain in weight, strength and appearance was very gratifying. On March 6, 1908, the hemoglobin was 65 per cent. The heart murmur was still present, but was greatly lessened, as was the area of cardiac dulness. The patient remained in a comparatively excellent condition until May 3, when she began to have a slight rise in temperature. Her attending physician was at a loss to account for this, and as there were a number of cases of typhoid fever in the vicinity he believed that she had contracted the infection. Chills and sharp rises in temperature later ensued and the patient died on May 25, apparently from acute endocarditis.

In all the cases of this group there are three important practical considerations, (1) the effect of the anemia, (2) the treatment and (3) the prognosis.

The principal effect of the anemia is on the cardiovascular system. Any attempt to set forth this effect involves us at once in a consideration of the association of myomata of the uterus and lesions of the heart, a subject on which much has been written in the last five years and an adequate presentation of which would lead us far afield, indeed even so far as to a discussion of the etiology of myomata. A few points should, however, be discussed.

Cardiovascular changes are frequent in patients suffering from uterine tumors. They are responsible for many postoperative deaths. Baldy[14] had 3.55 per cent. mortality from cardiovascular causes in his fibroid cases and but 0.2 per cent. in all other operations. Among 80 autopsies on patients with fibroids, Schlaegel[15] found some pathologic condition of the heart in 48.7 per cent.; Webster[1] reports 25 per cent. of such changes in 210 clinical cases. Fleck[16] found 40.0 per cent. among 325 cases studied. Boldt,[17] in whose excellent paper there is a review of the whole question, found some circulatory changes in 47 per cent. of 79 cases. Other similar statistics might be quoted. Proper distinctions between myocardial and endocardial changes have not been made.

A careful study of some 25 papers on this subject leads me to the following points: There are four theories to account for the frequency of cardiovascular changes in patients with myomata. These are:

(a) Alterations in the vascular system are primary, and the cause of the fibroids.

(b) The presence of the tumor leads to increased aortic tension and other circulatory disturbances which affect the heart.

(c) Myoma is not a local affection, but a general disease with a triad of symptoms consisting of tumor, nervous manifestations and general vascular disturbance (Paulli[18]).

(d) A toxin circulates in the blood which causes both the uterine tumor and the heart degenerations.

None of these theories is satisfactory. It is my belief that uterine myomata are congenital and can not, therefore, be secondary; that only the larger tumors disturb the circulation sufficiently to cause an increased aortic tension, and that there is nothing in the nature of an undegenerated fibroid to lead one to believe that it is either caused by a toxin or that a toxin is elaborated.

A consideration of the cases on which these theories are based shows that a large majority of them are either cases in which degenerations have taken place or in which there has been hemorrhage. Hemorrhage, of course, is not the sole cause of anemia, but in the vast majority of cases it is the underlying factor, and I believe that in the greater proportion of the cases anemia is the cause of the cardiovascular changes.

If anemia is the cause of these frequent and well-recognized vascular changes, the practical deduction is that all fibroids showing the slightest tendency toward an increase in the menstrual flow should be promptly removed. The presence of these heart changes is an indication for operation rather than a contraindication. Many patients, however, are not seen until the anemia is grave. What then should be our attitude toward them?

It has long been held, probably less tenaciously at the present time, that it is highly dangerous to operate under general anesthesia when the hemoglobin is less than 30 per cent. Some authorities regard 40 per cent. as the low limit of safety. This belief is based largely on an excellent study on the effects of anesthesia on the blood made by Bierfreund.[1] Kaltever[illegible] says: "While there are some instances on record in which a general

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14. Am. Jour. Obst., October, 1907.
15. Zentralbl. f. Gynäk., xxx, [illegible]
16. Arch. f. Gynäk., lxxi, No. 1.
17. New York Med. Jour., Oct. [illegible], 1907.
18. Hospitalstid., xlii, No. 2[illegible]
19. Langenbeck's Arch., xli, 1.
20. Philadelphia Med. Jour., D[illegible], 1902.

perchromatic nuclei and mitotic figures. A lymphocytic and plasma cell infiltration is present in the upper corium, which reaction is essentially the same wherever growing epithelium is beginning to show malignancy.

It seems reasonable to assume that nevi do not always originate from the same embryonic structure, for it is possible that the mesoblast as well as the epiblast may give rise to these developmental anomalies. In my experience there is more evidence in favor of an epidermal than an endothelial origin. I have found, however, that the type of cell varies somewhat, even in nevi of the same class. In some of the pigmented warty moles I have seen perpendicular columns of cells which were closely related to the basal cells of the epidermis. They were elongated or cylindrical with deep-staining nuclei and relatively little cytoplasm (Fig. 5). Again, in nevi which were similar, clinically, to the preceding, the cells had the arrangement of a mosaic and were of a transitional type, being large and globular or polygonal, with vesicular nuclei, clear cytoplasmic bodies and distinct borders (Fig. 6). In none of them was it possible to demonstrate prickles. Sometimes these varieties occur mixed and next to a column of small deeply-staining cells one will find a nest of the larger pale kind.

I agree with the contention of Unna, Gilchrist and others that the majority of pigmented tumors arising from nevi are of epithelial origin, though it is not possible in every case to exclude a mesodermic origin of certain of them. This is opposed to the views of Johnston and other supporters of the endothelial genesis of moles that melanomas from nevi are sarcomas.

CARCINOMATOUS LYMPHANGITIS SECONDARY TO CANCER OF THE BREASTS.

Malignant disease of the breast seldom comes to the dermatologist unless it is complicated with a cancerous lymphangitis or unless the latter is the predominating feature of the disease, as in the case about to be related. In this case nodular lesions appeared in the skin over the mammary region simultaneous with or shortly after the occurrence of the retraction of the nipple. From the history which the patient gave, it seemed likely that carcinoma of the breast followed on a mastitis subsequent to childbirth.

History.—Mrs. C. C., aged 28, had had six children, two of whom were dead. Her mother was living and well; her father died of "jaundice" at the age of 49. She had one sister living. For nine years she had had trouble with her right breast, following an abscess after the birth of her first child, and she said none of her children would nurse from it. She was first seen in July, 1907, when she stated that the condition then present had begun a year previously. At that time she noticed "spots" on the skin of her chest and afterwards nodules in her right breast. Six months later the left breast became involved.

Examination.—At the time of examination she was in the fifth month of gestation. Both breasts were hard and the nipples slightly retracted. Over the front and back of the chest on the right side were scattered numerous lenticular lesions (Fig. 7), a few of which were encrusted. A lymphangitis also was present, which manifested itself by a reddish-brown discoloration of the skin, extending along the line of the lymphatics from the nipple over the shoulder, the back and down the right arm (Fig. 8).

Later History.—She was not seen again for two months, during which time the disease had made extraordinary progress. The right upper half of the chest was red and the seat of numerous encrusted lesions; the lower half showed a linear lymphangitis and lenticular nodules. The surface temperature was not elevated as in ordinary septic lymphangitis. Both nipples were retracted, the glands were board-like and her right arm was edematous and red. She was markedly cachectic and had great difficulty in breathing/partly on account of the infiltration and partly on account of the extreme weakness from which she was suffering. She gave birth to a healthy child on November 12 and died on December 26 from exhaustion. In the meantime the tumors of the breasts had increased in extent, many of the nodules in the skin of the chest had undergone ulceration, and the edematous condition of the arm had increased. The lymphangitis which had been present only on one side involved the left side also, but was more accentuated on the right side.

Examination of Specimen.—Specimen removed from the skin over the site of lymphangitis (Fig. 9) showed the lymphatic channels of the corium filled with large epithelial cells containing hyperchromatic nuclei and numerous mitotic figures. The central portion of many of these cellular collections had undergone a fatty degeneration and resulted in cyst-like cavities containing epithelial detritus. The collagenous tissue immediately about the lymph vessels was reinforced by a new growth of fibrous bands with numerous spindle cells. Beyond an acanthosis and edema, the epidermis participated only passively, the growth from the subepidermic lymph spaces extending into the epiderm and forming cysts at its expense. As can be seen from the illustration, the cancer cells have entirely displaced those of the rete and so compressed them that they form the walls of more or less rounded or irregular spaces containing tumor cells, degenerated protoplasm and chromatic particles. It was over these areas that ulceration took place and it was the contents of these small cysts which could be extruded on pressure.

In his chapter on Paget's disease Ribbert[5] states that the edematous and vacuolated cells present in that condition are not the primary epidermal cells which have suffered this change, but foreign elements which have emigrated from the tumor growth beneath. This view is not substantiated by a study of the illustrations showing the invasion of the epidermis by cancer cells in the case of lymphangitis (Fig. 9) and the epidermic changes in Paget's disease of the buttock (Fig. 10) given herewith. In the former the invading tumor cells formed cysts entirely distinct from the normal cells of the part, and there was no migration of individual cells. In the latter, where early changes are pictured, it is very evident that the cells belong to the epidermis.

Histologic examination of the lenticular nodules showed the lymphatic spaces of the entire corium infiltrated with rows of epithelial cells running parallel with the epidermis. Many had undergone a fatty degeneration and stained poorly. In the connective tissue surrounding the growth a mucinous degeneration had taken place.

PAGET'S DISEASE OF THE BUTTOCK.

During the past few years a number of cases of extramammary Paget's disease have come under my observation One of them, a lesion on the buttock, was made the subject of a report.[6] It was cured with *x*-rays, no recurrence having taken place after three years. The case about to be cited is interesting on account of having the same localization and many features in common with the other.

History.—J. F., aged 68, born in Ireland, had for many years been a gardener by occupation. He had a seborrheic dermatitis and patches of senile keratosis over the face and backs of the hands, together with telangiectases and pigmentations—a condition like that met with in sailor's skin. The affection for which I was consulted had slowly progressed over a period of thirty years, was located on the right buttock and consisted of an irregularly rounded, non-ulcerating area

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[5] Beitr. z. Entstehung der Geschwülste, 1906.

[6] Jour. Cutaneous Diseases, 1905, xxiii, 193.

4 by 5 inches in diameter, dark red in color, with a marked polycyclic margin and a slightly nodular center. The diagnosis of Paget's disease with secondary epithelioma was confirmed by microscope. The condition slowly resolved under *x*-ray.

Examination of Specimen.—The tissue from the margin of the lesion (Fig. 10) showed acanthosis with swollen edematous epithelial cells, vacuoles and mitotic figures. Some had lost their prickles, had a dark contour, but still retained their relation to neighboring cells; others were separated and free in spaces. There was a dense sub epidermic infiltration of plasma cells and lymphocytes Sections from the center of the lesion consisted of an intact slightly verrucose epidermis with striking changes in some of the rete cells. They were likewise edematous, contained hyperchromatic nuclei and many atypical mitoses. A number were detached from their neighbors. The tumor itself (Fig. 11) extended through the corium by branching processes; its upper portion was made up of cells conforming more to a transitional type, being ovoid or more or less rounded with large, pale vesicular nuclei. The protoplasm was degenerated and here and there vacuolated, suggesting oftentimes prickles. At different points of the growth the degeneration involved a number of cells and gave rise to cysts filled with fragmented nuclei and protoplasmic detritus In the more recent and advancing parts of the tumor the cells were smaller and the nuclei richer in chromatin The sclerotic collagenous tissue contained an inflammatory infiltration, most marked beneath the epidermis and about the upper half of the growth.

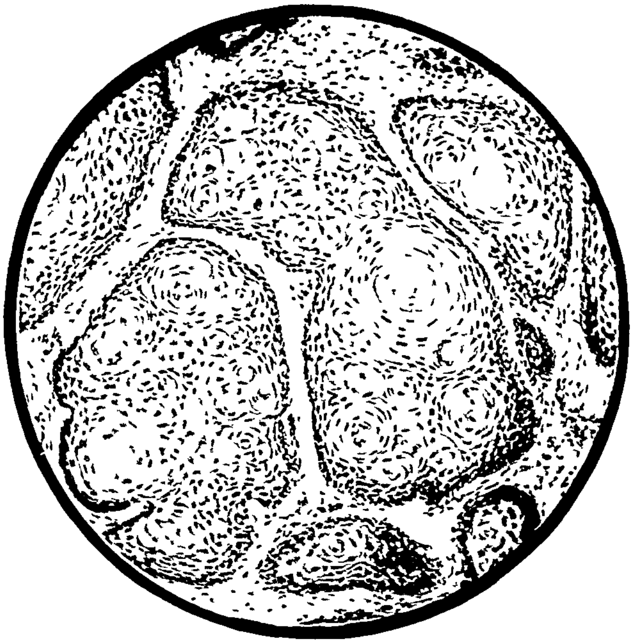

Fig 1—A cancer of the leg following an injury The tumor had a very malignant clinical course, its activity being evident histologically by the formation of numerous "pearls"

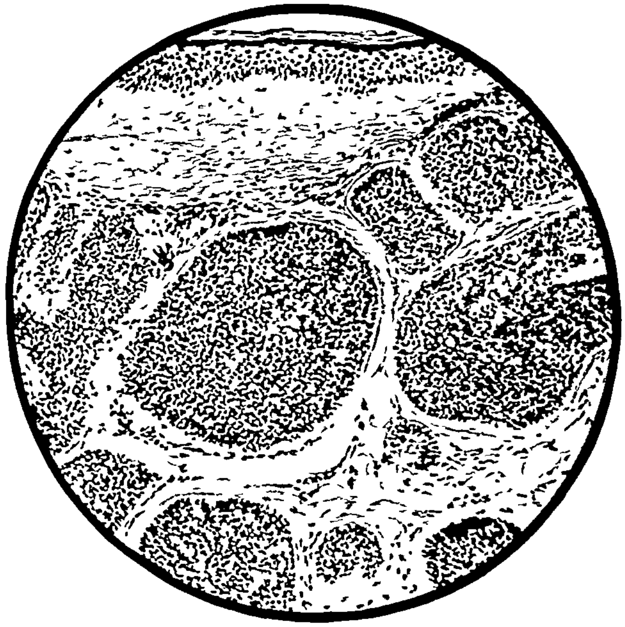

Fig 2—Cylindroma of the scalp The cells of this tumor are small and closely resemble those of the basal layer of the epidermis. Inside the cellular aggregations hyalin degeneration has taken place in the form of small cylindrical areas, from which the growth derives its name. Immediately surrounding the cell masses the connective tissue has likewise undergone a degeneration, appearing as a narrow homogenous band of hyalin.

In my experience, extramammary cases of Paget's disease do not differ essentially from those of the nipple, unless it is in degree. In both instances the process is the same, namely, edema, vacuolation, loss of prickles, separation of the cells and erosion, but in the mammary region it apparently attacks the epidermis with greater severity. Tissue from the edge of ordinary ulcers has shown that the cells are sometimes swollen and vacuolated or ballooned. This change, which is due to the simple imbibition of fluid, does not, however, follow the pathologic cycle of Paget's disease.

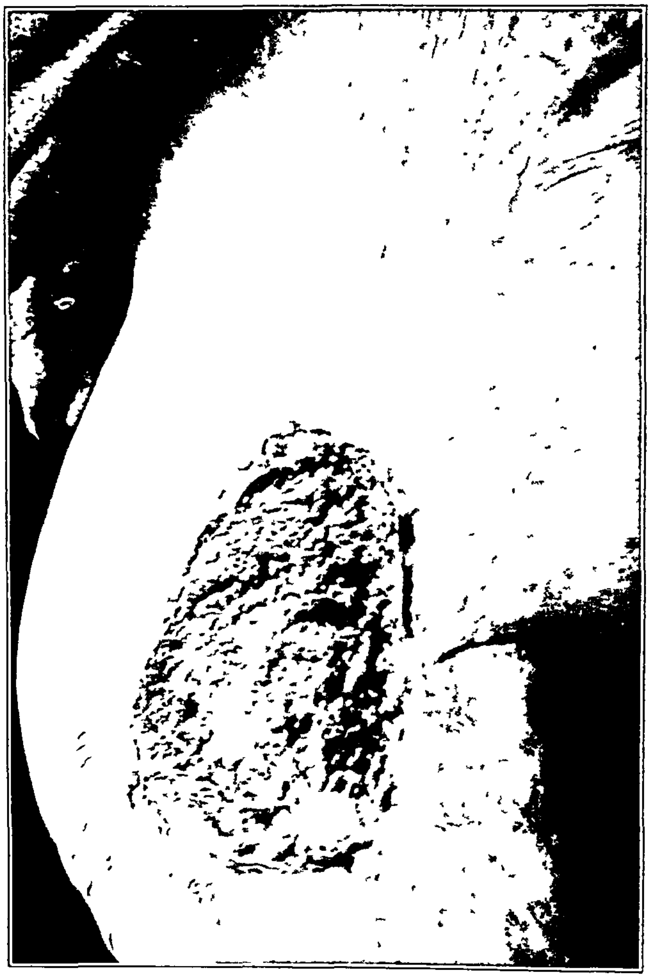

Fig 3—Marjolin's Ulcer. Burn of hip and side of trunk when 3 or 4 years old It healed and broke down several times Now has ulcer 3×4 in on hip, surface knobby, here and there islands and streaks of new epidermis Biopsy showed typical squamous-celled cancer, sharply limited by dense mass of sclerotic tissue beneath

MULTIPLE EPITHELIOMATA OF THE ARMS AND CHEST.

The clinical picture of epithelioma of the skin includes a number of types which are not generally recognized as belonging to this group, but are sometimes mistaken for infective granulomata or other diseases of the skin. They are best illustrated by examples which have fallen under my observation in which the diagnosis has been confirmed by the microscope. Sometimes there is little new growth, but a slowly spreading dark red patch, slightly scaling on the surface, with irregularly rounded outline, which probably developed on areas of chronic seborrheic dermatitis which later assumed an appearance of senile keratosis, or they are accompanied by patches of verruca senilis. These lesions are usually seen too late to follow the sequence of their development. In some of them the edges do not show

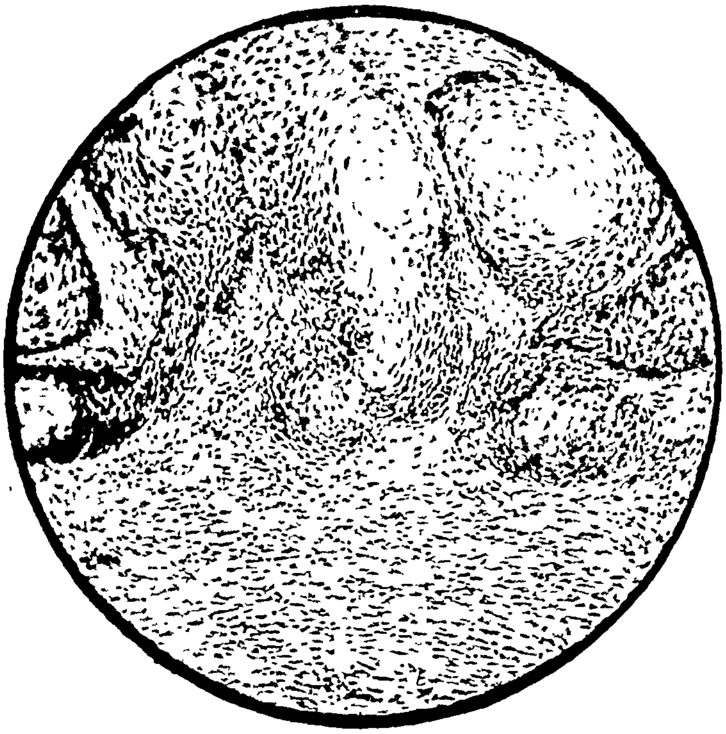

Fig. 4.—Cancer of the skin following an old ulceration due to a burn. The photograph shows the downgrowth of the tumor sharply limited by the underlying dense connective tissue.

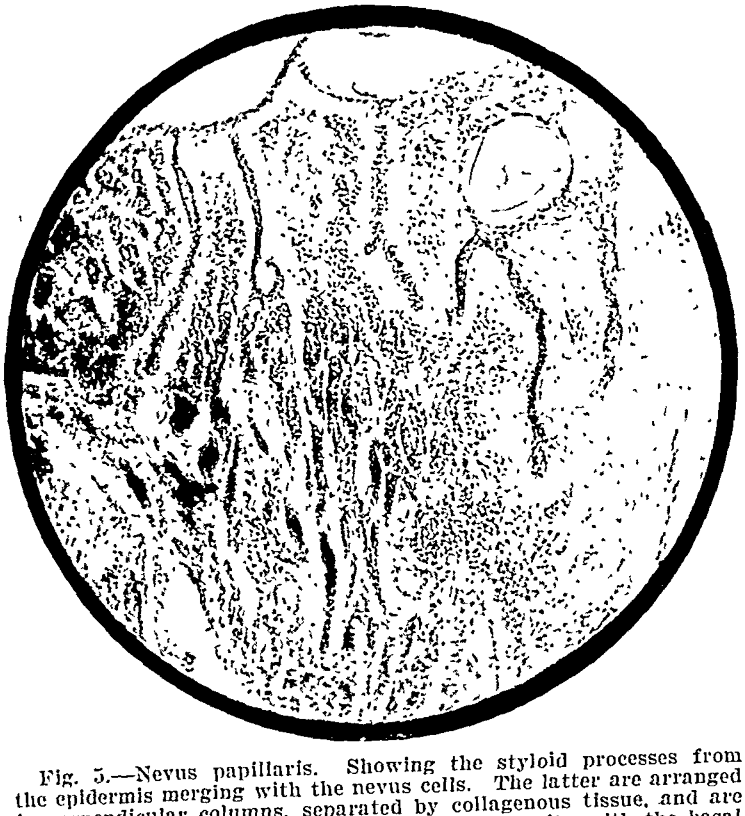

Fig. 5.—Nevus papillaris. Showing the styloid processes from the epidermis merging with the nevus cells. The latter are arranged in perpendicular columns, separated by collagenous tissue, and are made up of a small type of cell more in conformity with the basal cells, having deep-staining nuclei and little protoplasm. The growth is pigmented.

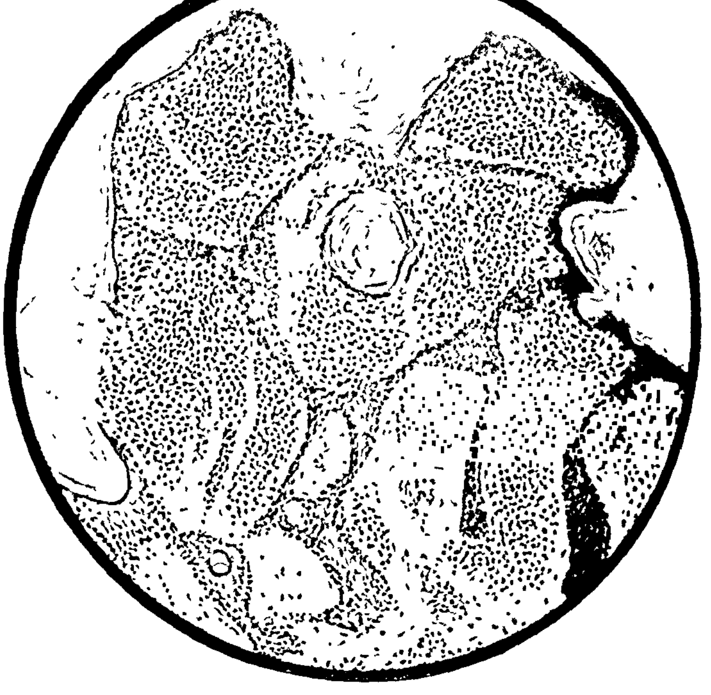

Fig. 6.—Nevus papillaris. Showing elongated and anastomosing rete pegs enclosing nevus cells which are probably of a transitional type. They are globular or polygonal, closely opposed to one another, with vesicular nuclei, clear cytoplasm and well-marked borders. Pigment is present.

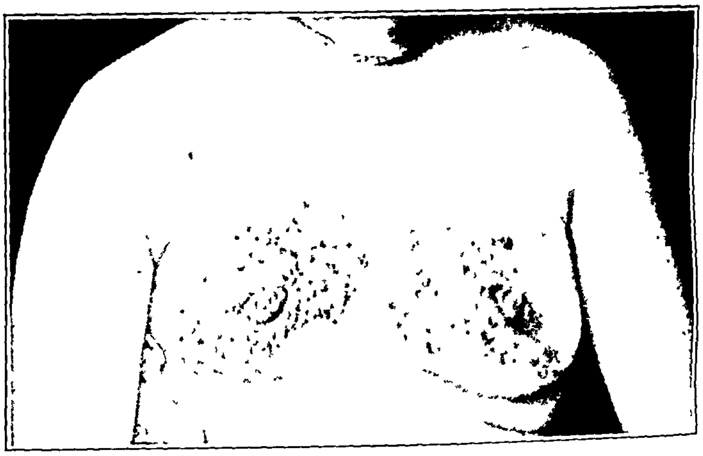

Fig. 7.—Lenticular carcinoma. Hard tumor of right breast with retracted nipple. Left breast also hard; nipple slightly retracted. Multiple lenticular nodules in skin covering both. Some eroded and discharging a serous fluid. Large erythematous patches over the right shoulder, upper part of right arm and right side of back (See Fig. 8), a distinct unilateral distribution. This erythema in places shows a slight infiltration—a carcinomatous lymphangitis in the early stages

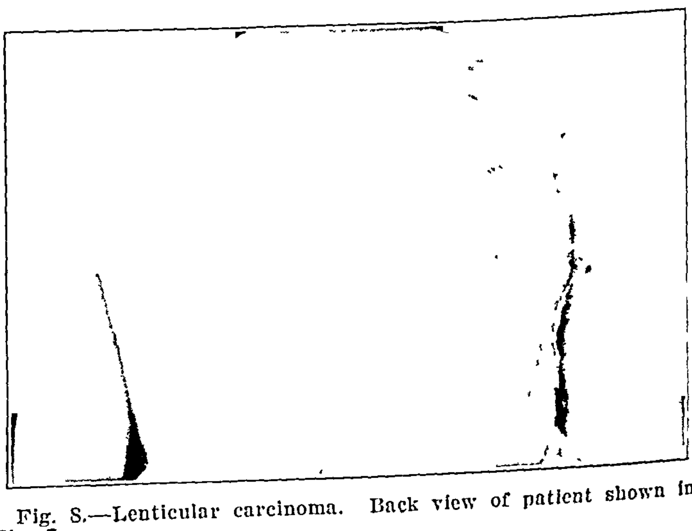

Fig. 8.—Lenticular carcinoma. Back view of patient shown in Fig. 7.

the elevated, rolled pearly margin, but they have a depressed center with little tendency to ulceration. When situated on the face a narrow rim of ulceration is sometimes present about the margin. Seen in the typical sites of rodent ulcer these patches are not difficult to diagnose, but when met with on the extremities and trunk they are strikingly like the late syphilitic neoplasms. An instance of multiple lesions of this character lately came under my care where a number of good observers had made the diagnosis of syphilis on account of the history of such an old infection.

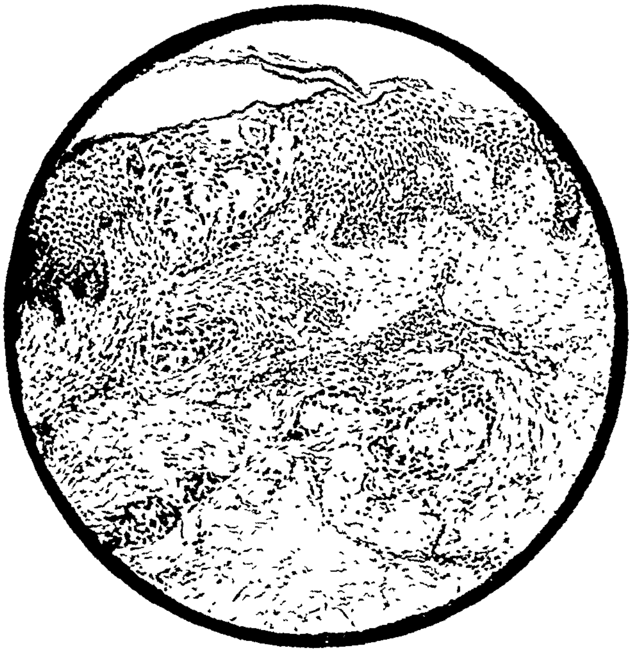

Fig. 9.—Cancerous lymphangitis secondary to cancer of the breast. Showing the cancer cells in the lymphatics of the skin and the mode of extension of the disease.

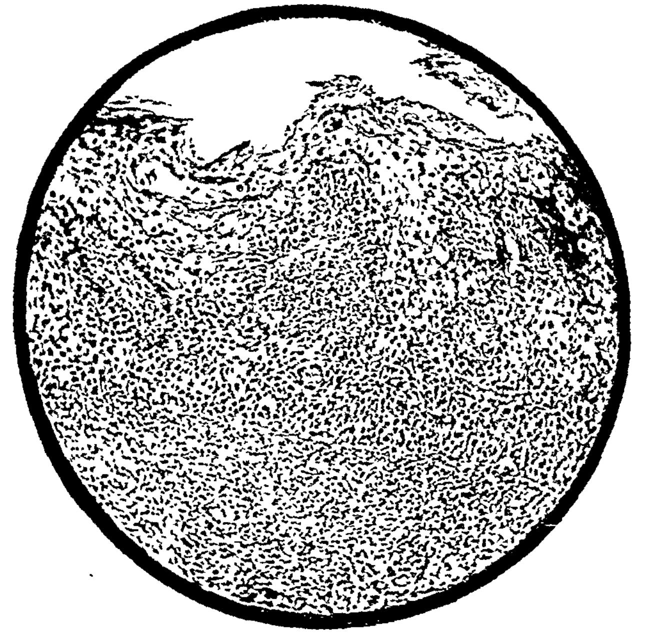

Fig. 10.—Paget's disease of the buttock, showing the changes which take place in the epidermic cells in this disease. They are very much swollen from edema, vacuolated and have their nuclei pushed to one side. Many of the cells have lost their prickles. In the corium there is a dense infiltration of lymphocytes and plasma cells.

History.—Mr. J., aged 72. Patient had had lues over forty years ago, for which he had active treatment, and for which he had consulted numerous practitioners since that time. When I saw him he had multiple lesions over the chest and arms, dark red in color, with scalloped margins, showing a very slight tendency to elevated or pearly rolled edge. They had persisted for a period of ten years and had progressed slowly peripherally without central involution, as seen in syphilitic infiltrations.

Examination of Specimen.—Histologically, the lesion was a superficial epithelioma (Fig. 12) situated under an intact, flattened epidermis, with which it was connected here and there by a delicate pedicle or in relation with a hair follicle. The cells were of the cylindrical type, being typical and uniform at the periphery of the cell masses, but showing a polymorphism in the center on account of pressure. Here many of them were elongated and spindle-shaped, like connective tissue cells.

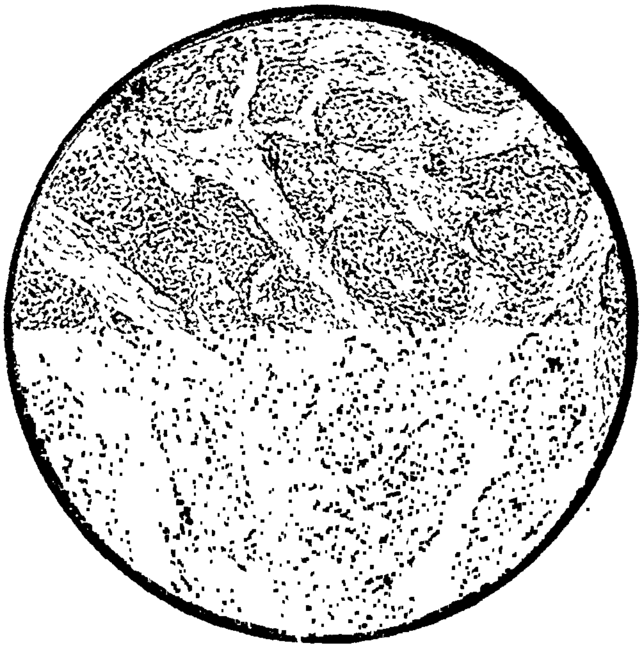

Fig 11.—Tumor in Paget's disease of the buttock. Growth consisting of a transitional type of epithelium with vesicular nuclei and well marked cell bodies devoid of prickles. A mucinous degeneration of the tumor present. The supporting connective tissue is sclerotic

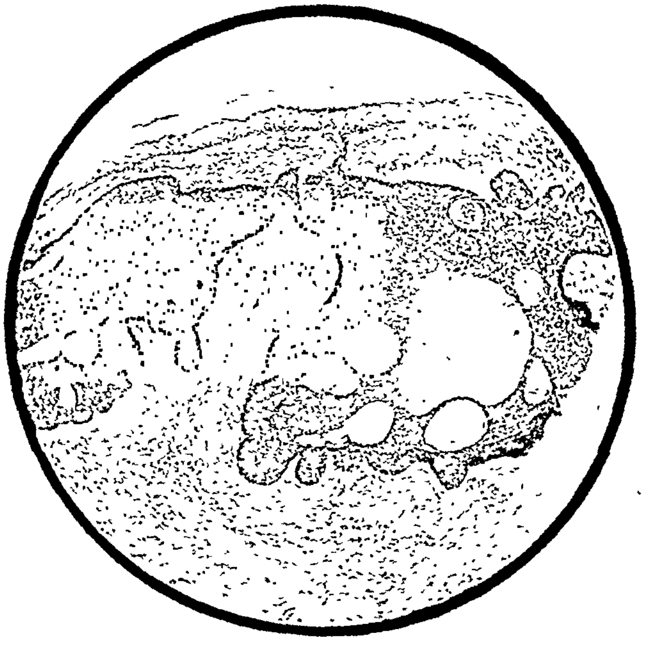

Fig 12.—Rodent ulcer Lesion from chest showing proliferation from basal layer of epidermis budding of the cell masses and cystic degeneration.

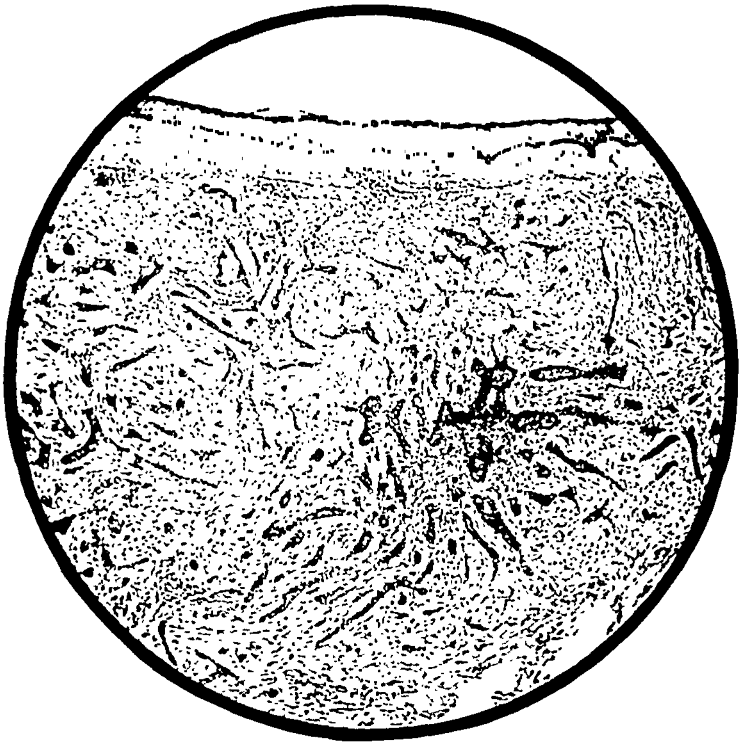

Fig. 13.—Tricho-epithelioma. Fine strands of epithelial cells ramifying through the derma. To the right of the center of illustration is seen a follicle in process of budding. The intervening connective tissue shows a partial band-like sclerosis and a mucoid degeneration.

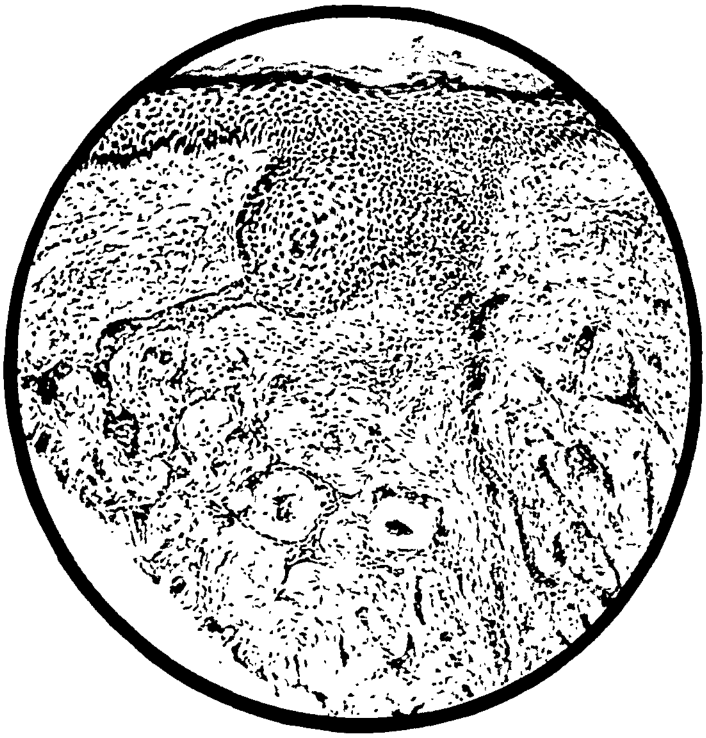

Fig. 14.—Tricho-epithelioma, showing proliferation of basal layer of hair follicle and extension of growth through the cutis.

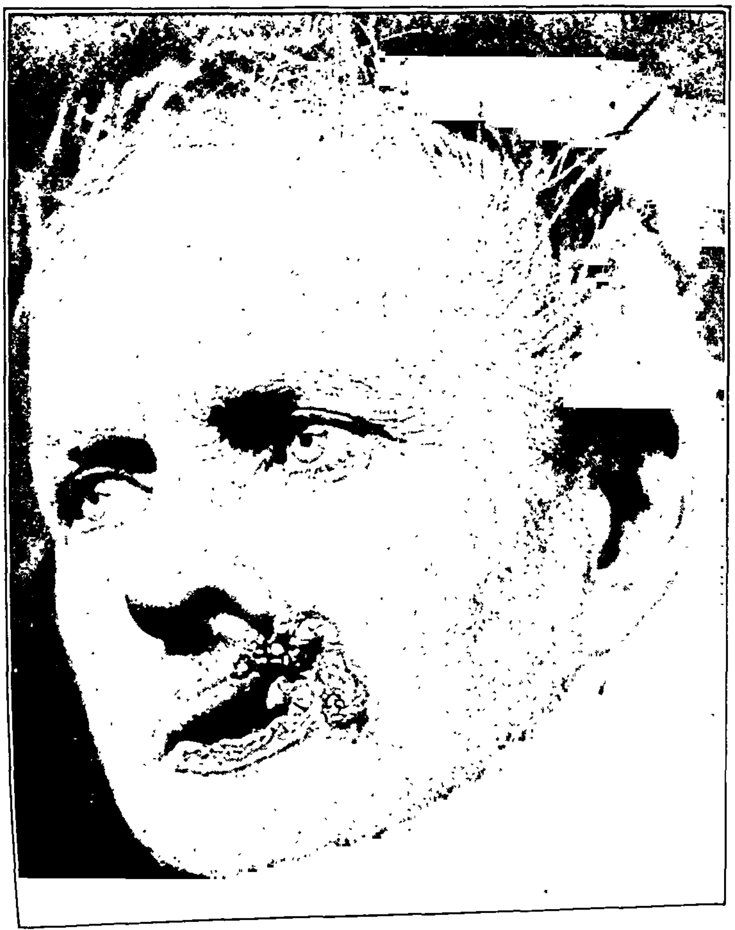

Fig. 15.—Rodent ulcer. Growth began near left ala of nose and gradually extended until it involved half of the upper lip and almost all of the lower lip. Loss of tissue was so extensive that canine and bicuspid teeth were exposed. Tumor of rodent ulcer type was confirmed by microscope.

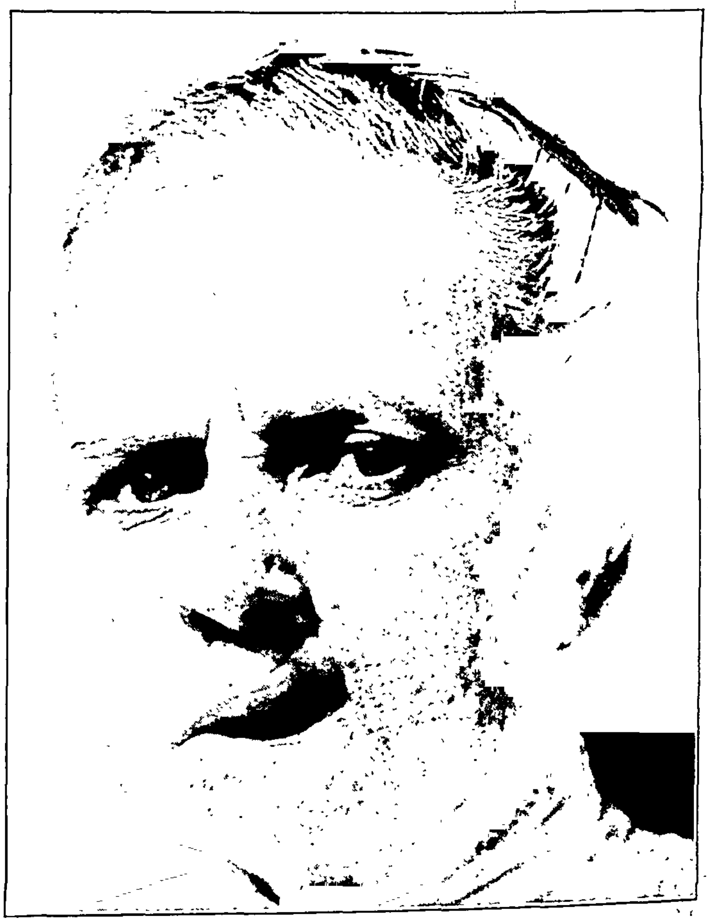

Fig. 16.—Rodent ulcer. After treatment with *x*-ray. Same patient as shown in Fig. 15.

A cystic degeneration had taken place at various points, the spaces containing emigrated leucocytes, protoplasmic detritus and some blood pigment. In areas in which this degeneration was beginning the cells were markedly swollen, the nuclei had lost their chromatin and appeared like shadows. In the corium lymphocytes and polynuclear leucocytes were present.

TRICHO-EPITHELIOMA.

In the following case the diagnosis was only made after a microscopic examination. There was nothing in the clinical appearance of the lesion to suggest an epithelioma.

History.—Z. L., female, aged 80, had on her upper lip near the left ala of the nose a small mole, which had broken down some months previously, and under the microscope proved to be a rodent ulcer with marked degeneration. Situated near this lesion on the lip was a small, circular, sharply limited sclerous area about ⅜ in. in diameter, which the patient said had existed for only about two years. It bore the clinical features of a morphea, but histologically proved to be a basal-celled epithelioma having its origin in the lanugo hair follicles.

Examination of Specimen.—Histologically the tissue presented an intact epithelial covering with the new growth occupying the entire cutis. It was made up of fine strands of epithelium, which on longitudinal section showed two or more layers branching in various directions and occasionally swelling out into cyst formation; on transverse section there was an alveolar arrangement of three or more cells. The cells themselves were small, with deep-staining nuclei and a narrow rim of protoplasm. The follicular origin was demonstrable in their connection with the lateral buds given off by lanugo hairs (Fig. 13) in the derma and the offshoots from the superior part of the follicle (Fig. 14). A number of horny cysts were present with two or more peripheral layers of cells and central lamellated corneous material. The collagenous tissue immediately surrounding some of the alveoli had undergone a hyalin change or was condensed like a basement membrane. Between the epithelial processes were long sclerous bands and between these a mucoid degeneration of the collagen. The sweat and sebaceous apparatus showed no appreciable abnormality. A moderate round cell infiltration was present throughout.

This growth was interesting for several reasons, in that there was no suggestion of a neoplasm, on account of its close proximity to another basal cell tumor of different conformation and because of the development so late in life of this particular kind of growth. It belongs to the class designated by a varied nomenclature, but the name tricho-epithelioma, given by Jarisch, Hartzell and others, is perhaps most fitting, as it is simple and indicates a certain structure in contradistinction to others having their origin in the basal cells of the epidermis or follicles.

COINCIDENCE OF PRICKLE CELL EPITHELIOMA AND RODENT ULCER.

It is unusual to meet with instances of prickle cell epitheliomas and rodent ulcers in the same individual, as multiple epitheliomas usually preserve the same type throughout. I have, however, had a case in which there was a typical rodent ulcer of the temple and a prickle cell growth over the bridge of the nose. Similar epitheliomas in the latter locality have been met with in several instances in my experience. In the early stages it was impossible to differentiate them clinically from the ordinary rodent ulcer. In one case, although the growth was healed under *x*-ray, it was soon followed by metastasis of the lymph node at the angle of the jaw, which recurred several times after operation and finally led to a fatal result.

History.—Mr. G. M., aged 43, had a small, pearly, nodular lesion of twenty years' duration, situated in the temporal region. It began to grow two or three years before I saw him, and slowly spread with central depression and elevated pearly margin. It was typical of an early rodent ulcer. The lesion on the nose had been present a year and a half and clinically was somewhat similar to the one on the temple. In addition he had another small, pearly growth beneath the right eye of seven months' duration. The lesions were curetted, followed by the galvano-cautery, a cure resulting.

Examination of Specimen.—Microscopically the lesion on the temple was a rodent ulcer of usual type. The one on the nose was of the pure spino-cellular variety, consisting of alveoli of prickle cells showing no tendency to pearl formation. It may have had its origin in the follicular cells as the alveoli seemed to be connected with a proliferating follicle.

EPITHELIOMA OF THE LIP IN A WOMAN.

Epithelioma of the lip, although of frequent occurrence in the male, is seldom met with in woman. The following case is, therefore, of interest:

History.—M. S., aged 48, said that the tumor began sixteen years previously from a small lesion near the ala of the nose. It spread very slowly until it involved by direct extension the vermilion border of the lips. The ulceration at the left angle of the mouth and adjoining upper lip was so extensive as to expose the bicuspid and canine teeth (Fig. 15). The growth yielded to *x*-ray (Fig. 16). Under the microscope it was seen to be made up of basal cells with a delicate tubular arrangement, conforming with the rodent ulcer type of growth.

In regard to *x*-ray treatment of epitheliomas of the skin, a longer experience with it has led to much greater conservatism in recommending it. I have found that better results have been obtained from the use of Roentgen rays after the new growth has been thoroughly curetted. In this way it is possible to apply the rays directly to the more actively developing cells. It has also been my experience that the prolonged use of the ray in malignant cutaneous growths is as a rule contra-indicated, especially its persistent use after repeated relapses, for it is believed that in certain cases it renders the tissue more vulnerable to the malignant process. I have in mind a number of cases of epithelioma and several of Paget's disease in extramammary locations in which no relapses have occurred after from two to four years. On the other hand, I have seen a number of instances in which *x*-ray had been employed to treat recurrences, each one of which involved greater areas of skin, both as to depth and circumference. In using the Roentgen treatment in such cases, one should not forget that excellent results may be obtained in many of these forms of minor epithelioma by the use of the curette followed by a chemical or the actual cautery. *X*-ray or radium should be reserved for epitheliomas of the inner canthus, the eye-lids or locations not accessible to other methods of treatment.

ABSTRACT OF DISCUSSION.

Dr. Joseph Zeisler, Chicago: Dermatologists have become convinced of the non-contagious nature of carcinoma, and I believe that a discussion along those lines between dermatologists, general surgeons and pathologists would be fruitful. We see cases of xeroderma pigmentosum, with the development of carcinoma under the influence of only one physical factor, namely, the influence of light; we see the development of carcinoma under the influence of the *x*-ray; we see it in the senile skin, simply due to dryness of the skin similar to that produced under the influence of the *x*-ray; we see it develop from nevi; so that we have sufficient proof from our own clinical observations to become convinced of the non-parasitic nature of carcinoma. I believe that this would be a wholesome lesson for the dermatologist to teach the general surgeon.

Dr. M. L. Heidingsfeld, Cincinnati: The distinction which Dr. Fordyce made between the prickle and the cylindrical cell type appealed to me very strongly. In my own work I have realized, both in a pathologic and clinical way, the difference between the so-called cylindrical and the prickle-celled epithelioma, and my observation has led me to a different idea as to the development of these tumors. The so-called basal-cell epitheliomata, I believe, are derived from the ducts of the sudoriferous glands, and are more of an endothelial character. In malignancy all neighboring structures such as the hair follicles, sweat glands, etc., are much stimulated to overgrowth and development by the abnormal conditions, and it is difficult to infer what elements of tissue are chiefly involved in the pathologic process. I believe the origin of these growths to be in the lower structures, the ducts of the sudoriferous glands, rather than the basal cells. In regard to the possibility of the mesoblast being involved in some of these processes, I will cite a case I saw a year or two ago. The lesion was a rapidly growing mole on the chin of a young man. I excised this and found that there were sixty or seventy small osteomata of laminated bone type, containing bone cells, corpuscles, Haversian canals and canaliculi, situated in the cutis and entirely isolated from all the underlying tissues. This case clearly indicates that mesoblastic tissue in the epiblast must owe its origin to misplaced embryonic development, and I heartily concur with Dr. Fordyce as to this probable form of origin of many new growths.

TRAUMATIC RUPTURE OF THE UTERUS AND BLADDER DURING LABOR AT FULL TERM. HYSTERECTOMY, REPAIR OF BLADDER AND RECOVERY.*

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AND
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ST. LOUIS.

The object of this paper is not to review the literature of rupture of the uterus, but to report an interesting case.

Patient.—A Russian by birth and of Jewish extraction, at the age of 16, left her native home and came to America. She had ten brothers and sisters, nine of whom were dead; the causes of death were unknown. The father and mother are living and well. The patient knows of no particular disease in family and stated that her mother and sisters experienced no particular difficulty in giving birth. She had no drug or tobacco habit. Menstruation was regular and without pain.

History.—The patient had only done housework since her marriage to her first husband, at the age of 22. One year after her marriage she gave birth to a 6 months' child, which died within a few hours. She was divorced from her first husband after two and a half years and remarried at the age of 26. One year later she was delivered of a full-term, seven-pound child, which is still living and well. She was in labor about thirty hours, but no obstetric interference was deemed necessary.

Present Pregnancy.—The woman had reached her twenty-ninth year. Pains began normally at what she had estimated was the end of the ninth solar month of pregnancy. She was attended by a midwife for the first thirty hours and then two physicians were called in and endeavored to extract the child with forceps. When they failed in their efforts, a specialist was summoned who, with the patient anesthetized, found the vagina wide, the cervix almost completely dilated, the fetal head apparently transverse above the pelvis in beginning engagement, but caput succedaneum made an exact diagnosis impossible. The lower uterine segment was very thin and reached the umbilicus. The physician then made a futile attempt at delivery with forceps and advised sending the patient to a hospital. The family refusing, version was decided on. No pelvic measurements were made and the fetal heart sounds were not to be heard. The back of the child was to the mother's right. A hand was inserted into the uterus with great difficulty and the lower uterine segment was found to be very tense but by pressing on the fundus with the other hand the left leg was finally brought into the vagina. At this stage another physician endeavored to complete the version and neglected holding the fundus. Suddenly he announced that the head had slipped upward. Abdominal palpation revealed the well-contracted uterus to the right and the easily defined fetal head to the left. The hemorrhage from the vagina was very small in amount. Owing to the obstinacy of the family, the patient could not be brought on the operating table till almost an hour and a half had elapsed. On admission to the St. Louis City Hospital, the patient was in profound shock. The pulse was 130, respirations 28 and temperature subnormal. Immediate preparations for operation were made.

Operation.—Ether anesthesia was given, the abdomen opened through a median incision. On entering the peritoneal cavity, a large quantity of blood and amniotic fluid escaped. The back of a well-developed, full-term child presented in the incision. The child was quickly delivered through the abdominal wound. The rent in the lower uterine segment extended two thirds around the cervix and well up into the body of the uterus, being T-shaped in character. Both uterine arteries were bleeding. The bladder was ruptured. The broad ligaments were quickly clamped, and the uterus caught and amputated above the cervix. The rent in the bladder was repaired with two layers of silk suture. The uterine stump was covered with peritoneum. The abdominal cavity was flushed with hot saline solution and closed with through-and-through sutures of silkworm gut. Anesthesia was begun at 12:28 a. m. The patient was returned to bed at 1:05 a. m.

Postoperative History.—Convalescence was uneventful, the patient being discharged from the hospital March 3, 1907, twenty-eight days from the date she was received.

As rupture of the uterus is divided etiologically into two classes, spontaneous rupture and rupture by violence, it is of interest to consider here if there were any predisposing causes in this case. Contracted pelves among us are not so common as in Europe. It is an accepted fact, according to Bandl, Baisch and other investigators, that an abnormally small pelvis is the chief cause of spontaneous rupture of the uterus—not a rachitic pelvis, in the majority of cases, but a generally contracted flat pelvis—and pelvimetry, as performed during the convalescent period of our patient, proved that she came under that class, the measurement being:

Interspinal	24.5 cm.
Intercristal	26.5 cm.
Intertrochanteric	28.0 cm.
External conjugate	17.0 cm.

The writers tell us that an edema of the cervix, due to the pressure between the head of the fetus and the pelvis of the mother, is an accompanying factor in this condition, as a result of which the resistance of the tissues is lessened. In this case the edema was practically absent.

We notice, moreover, that the woman was a multipara, and that she had been in labor thirty hours (the time of rupture of the membranes not obtained) before a physician was called. As the woman, at the age of 27 years, had been in labor twice as long as the average primipara, and as it is a fact, according to Döderlein, that the children increase in size up to the fifth, a birth along normal lines was hardly probable.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Systemic disease and operations were denied, so, if any scar tissue had formed, it must have resulted from the first birth; and the dilated cervix and wide vagina speak against any pronounced amount.

The fact that there were no new growths and that the child was of average size, cause us to sum up our findings as a strong plea for pelvimetry in every case.

Regarding the treatment, it appears that when the specialist had failed to extract the child with forceps, only craniotomy and pubiotomy should have come into consideration, for Döderlein now teaches never to try version after a skilled operator has failed with the forceps. Pubiotomy was contraindicated by reason of the long birth, the surroundings of the patient, the numerous forceps applications and the fact that the negative auscultation of the fetal heart sounds and the large caput succedaneum pointed to a dead fetus.

PERSONAL OBSERVATION IN SCARLET FEVER.*

CHARLES GILMORE KERLEY, M.D.
NEW YORK.

It was my good fortune early in my professional life, when resident physician at a New York institution for children, to see a great many cases of scarlet fever, so that what I shall have to say will be the result of personal observation in institutional and private work in over five hundred cases.

INFECTION AND CONTAGION.

Scarlet fever is both contagious and infectious. By contagion I am to be understood as meaning the possibility of direct transmission of the disease from one ill with scarlet fever to the unprotected. By infection I mean that it is possible for the disease to be transmitted through a second person or through the medium of an object, such as a book or article of clothing.

Transmission by other than that of personal contact, according to my opinion, is unusual. It has been impressed on me repeatedly that the contagium of scarlet fever is not particularly active early in the disease. I have repeatedly known the unprotected to be exposed for several hours and not contract the disease. In other words, there is less likelihood that the unprotected may contract scarlet fever under exposure than that they may contract measles or pertussis under similar circumstances. Not a few times I have known a child to develop scarlet fever during the night. He would be found in the morning with a well-marked rash and the unprotected children occupying cribs on either side would not develop the disease.

That the contagium may infect clothing or other objects, has been proved. A case in point occurred in a Hudson River village. A little girl, native of the village, contracted scarlet fever in Brooklyn, having returned before signs of illness appeared. The disease was very severe and the child died. All the clothing that had been worn was destroyed, with the exception of a new coat, which the mother thought too good to burn. This was secretly wrapped in paper and put in the drawer of an unused bureau. After twelve months the mother gave the coat to a little girl in the village. The child came down with scarlet fever in a week or ten days after wearing the coat. There had been no other cases of scarlet fever in the village, other than these two, up to this time. The second little girl had never been out of the village. There was no apparent possible connection between the two cases other than that of the cloak.

INCUBATION, AGE OF SUSCEPTIBILITY AND DEGREE OF SEVERITY.

The usual period of incubation is from five to nine days. I have seen it develop three days after exposure in two instances and in one case on the twelfth day. Few, however, go by the seventh day. If an exposed child passes the ninth day without signs of the disease, we can assure the family that the chances for the child contracting the disease are small.

The susceptible age is between the first and tenth year. Cases occurring in children under six months of age are rare. This was forcibly brought to my attention in one of the institution epidemics. In this instance scarlet fever broke out in a second-floor ward of one of the cottages. In this ward were four nursing women and twenty-six children. The four nursing women, who were orderlies, each had a baby under four months of age. The disease developed in a colored boy over five years old. When my attention was called to him, I learned that he had been kept in the ward for three or four days for insubordination and possible illness. On examination a well-marked scarlet fever rash was found. Inasmuch as all the children had been thoroughly exposed and as our quarantine was filled with diphtheria, it was thought best to quarantine the entire ward. This was done. Every one of the twenty-two older children, from two to six years of age, came down with scarlet fever, together with one of the nursing women, who nursed her own child through the period that she had the disease. Neither her own child nor the other three nurslings took scarlet fever. On the contrary, they throve and grew fat in the atmosphere, about ten weeks being required to complete all the cases.

Like the exanthemata, scarlet fever may be so mild that a diagnosis is impossible, or it may be so severe as to take the life of the patient in a few hours. Usually the severity or mildness obtains fairly evenly throughout a given epidemic—this year cases mild, next year cases severe. This does not invariably follow, as I have seen cases coming from the same ward during the same epidemic, but showing wide variation in severity.

INVASION AND DURATION.

The onset in the usual case is sudden, with fever and sore throat. In a small proportion of the cases there is vomiting. Fever and the angina are the most constant symptoms. The degree of temperature indicates fairly accurately the severity of the infection. With a temperature range from 104 to 106 we have a severe infection; in a range from 102 to 104 F., moderately severe; with a range below 102 F., the infection is mild.

The rash in scarlet fever is variable; it differs widely in its intensity, although in the main it corresponds in intensity and in extent of development with the fever.

The rash in scarlet fever is simulated more by other rashes than the other exanthemata. In other words, it has less exclusive characteristics. The rash in septic processes simulates scarlet fever very closely.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The rash of streptococcus tonsillitis is very similar to the scarlet fever rash. Various drug and indigestion rashes are mistaken by excellent diagnosticians for scarlet fever. In differentiating these difficult cases I have found the throat manifestation of no little help. Thus we have scarlet fever with little or no fever, with the rash varying widely in its development, but I have seen but few cases without a distinct angina, and no cases without angina when a characteristic rash was present. I look on this symptom, angina, as one of the most constant in scarlet fever. The strawberry tongue is of little value. I have seen it in many other illnesses.

The duration of the active symptoms in the uncomplicated cases is from three to seven days.

DESQUAMATION.

The desquamation is also subject to wide variations; usually in the most severe cases with intense rash the skin desquamates the earliest and the most freely. Nevertheless, we see cases who had marked rash with desquamation very slightly or not at all.

I have a case in point at the present time, that of a girl 11 years old, the daughter of a prominent New York surgeon, who had a typical well-marked rash, which faded at the usual time without a sign of desquamation. Three years ago a boy after exposure developed a severe scarlet fever with all the symptoms well marked. He was kept in quarantine six weeks, waiting for the desquamation. Not the slightest trace appeared.

On the other hand, there are cases in which there has been little or no rash, but in which there is free desquamation. Among the few patients referred to as having had scarlet fever without throat signs was a maid in a family where two children were ill with scarlet fever. The young woman never had a temperature above 100 F. My attention was called to her but once, and then because of a slight redness of the skin on the forearms. Her temperature was normal. Her throat was negative, and the redness on the arm was dismissed from my mind when she told me that she had been washing clothes in soap and hot water. After the house had been fumigated on account of the children, the maid's skin began to desquamate, peeling freely from her hands. She was seen by a health officer and sent to the Willard Parker Hospital.

The onset of desquamation is subject to wide variations. In some it will disappear before the rash has subsided; in others, not until two or three weeks have elapsed. I have seen two cases in which there was a second desquamation. The skin desquamated and cleared. In two weeks in one child, and in four weeks in another, a second desquamation occurred, almost as extensive as the first.

SECOND ATTACKS.

In one case I have seen a second attack of scarlet fever occur in three months in a boy of six years. The first attack was moderately severe, followed by a free desquamation. The second attack was of unusual severity, and the boy died.

MANAGEMENT OF UNCOMPLICATED CASES.

Our first thought in the management of any severe illness in a child is to place him under the most favorable influences, in order that he may best undergo the ordeal before him. We can not cure scarlet fever or shorten its course, but we can make it easier for the patient to bear. Inasmuch as the outcome in many cases is a matter of vitality, of resistance against a definite poison, it must be our object to conserve every strength unit; for when, by any means, energy is wasted, we lessen correspondingly the chances of recovery.

The first principle of management, as relates to the conservation of energy, rests in keeping the child comfortable, as comfortable as the disease will allow.

Fresh Air.—The first consideration in this regard is fresh air. A well-ventilated large room with free ventilation is most desirable. The child is kept in bed.

Clothing.—The usual night clothing and bed clothing is all that is required.

Diet.—The diet is invariably reduced. In every severe illness in a child the digestive capacity is diminished and the strength of food must be lowered to meet the changed condition. Digestive disturbances with their resulting toxemias mean that there is just so much more for the patient to bear, a waste of strength units. Milk as a rule is digested badly by very sick children. It is my custom to give it considerably reduced with cereal decoctions or not at all. In fact, the best diet for a child very ill is the one which will maintain strength and yet call for least digestive effort. I find that this office is best filled by gruels and meal soups to which enough animal broth is added to give a pleasant taste to the mixture. Orange juice, weak tea, kumyss and zwiebach are also used in selected cases. Water is given freely.

Bowel Function.—There must be one free evacuation daily. Nurses are so instructed.

Urine.—The urine is examined at each visit. This is easiest done if a small bottle of nitric acid and a few test-tubes are kept in the sickroom. It takes but a second to test for albumin.

Sponge Bath and Inunctions.—Twice a day the patient is sponged over the entire body with water, which may be made cold, cool or luke-warm, depending on the bodily temperature. After sponging, the patient is oiled with liquid petrolatum or cold cream. The sponging and the inunction give a great deal of comfort and prevent a wide scattering of the desquamated skin particles. After establishing the patient under the above general management, which applies to all cases, we are in a position to look into the details of an individual case.

Daily Inspection.—In scarlet fever, aside from guarding against the systemic effects of the specific poison, we have to keep in close touch with the kidneys, as already mentioned. Our daily inspection should include the throat, the ears, the glands and the heart. Of these the throat is by far the most important. Here we always find the streptococcus active; and from this source in all probability the heart is affected.

Drugs and Local Treatment.—Do not give heart stimulants merely because the child has scarlet fever. The indication for heart stimulation is heart weakness. Alcohol is given only in the severely septic cases. Its possible unfavorable effects on the kidneys should always be kept in mind. In selecting heart stimulants, the choice is between strychnin, strophanthus and digitalis. In all cases with pronounced angina, I give chlorate of potash internally and use peroxid of hydrogen in the form of sprays or gargles. The iron and chlorate of potash mixture, used so extensively in diphtheria, doubtless earned its popularity from the disinfectant action of the chlorate of potash. It is to be given in small dosage, three to four grains every two hours, not more than five doses in twenty-four hours. I have yet to see harm result from its administration in a great many cases. When there is nasal involvement one grain of menthol is added to one ounce of liquid petrolatum and used as a spray; or a saturated solution of boracic acid is instilled into each nostril several times daily.

Throat Irrigation.—If the throat shows extensive involvement with edema, false membrane and sloughing, I bring throat irrigation into use. This is carried on as follows: The child is wrapped in a sheet, which is securely pinned, binding his arms to his sides. He rests on his right side without a pillow. Directly under his mouth is a pus basin to catch the outflow. A new fountain syringe, containing a hot salt solution, 120 F., is suspended about three feet above the child's body. The largest size of the hard-rubber rectal tip is fastened to the pipe and the tip placed between the child's teeth. The current, interrupted every few seconds, should be forcible enough to increase its efficacy as a cleansing agent, the volume of fluid being so small that no inspiration of the water occurs. The first irrigations will arouse more or less rebellion on the part of the patient, and but one-half pint of the solution need be used. In older children no trouble will be experienced after the relief afforded by the first treatment is appreciated. In refractory young children, from two to four years of age, the assurance that there will be no pain and a promised reward will reduce the struggling to a minimum. It is not to be expected that the child will not cough; in fact, a little coughing is desirable, as it dislodges the pus and sloughing tissue, enabling the solution to cleanse the parts more effectually.

Cold Compress.—No better preventive method against the development of adenitis exists than the cold compress on the throat. This is applied at the first sign of gland involvement and repeated at hour intervals.

Treatment of Pyrexia.—High temperature in children, regardless of the nature of the illness, is to be managed by the same methods. The most satisfactory method in my hands has been in the abstraction of heat through the means of hydrotherapy, in the use of spongings and packs. It is a popular belief among laymen that cold should not be used in scarlet fever, because of some unfavorable influence exerted on the rash. There is no disease of childhood with high temperature in which the application of water to the skin does harm. I use spongings and packs in scarlet fever, exactly as in pneumonia. When is elevation of the temperature to be interfered with? What are the indications that necessitate interference? When we have a degree of temperature that causes restlessness, loss of sleep, rapid heart with resulting loss of vitality, that is, wasted energy, then I believe that means at reduction should be instituted. This will be necessary in some patients at 103 F., in others at 105 F. In other words, we should be governed largely by the effects of the temperature on the individual and not by the reading of the thermometer. If sponging is employed I use one part alcohol with three parts of water at about 80 F. The skin is repeatedly moistened with the solution, which is allowed to evaporate. In some patients such a procedure is soothing. In others it occasions no little annoyance and must not be used. By far the most satisfactory hydrotherapeutic means is the use of the cool pack

Preparation of the Cool Pack: The pack is prepared as follows, a rubber sheet being used to protect the bed sheet: A large bath towel or some thick, soft absorbent material should be used; muslin, linen or any thin material does not answer as well. Slits are cut in the towel large enough for the arms to pass through, and the towel is folded around the body, enveloping only the trunk and buttocks. The pack should not extend below the middle of the thighs. This leaves the arms and the greater part of the lower extremities free. A hot-water bag, carefully guarded, should be placed at the feet and the patient covered with a blanket of medium weight. The towel is moistened with water at 95 F. This higher temperature is necessary at first, in order not to frighten the patient, as sudden cold is apt to do, and also to avoid shock. In two or three minutes the towel, without being removed, is again moistened with water at 90 F., later with water at 85 F., and still later at 80 F. When the temperature of the water reaches 80 F. it is better to hold it at this point for half an hour; then the patient's temperature should again be taken. If at the beginning his temperature was 105 F. and now shows but slight or no reduction, the temperature of the water with which the towel is moistened should be reduced to 70 F., or, if necessary, even to 60 F. The child throughout need not be disturbed, except to turn him from side to side to wet the towel with water of the desired temperature, this being one of the advantages of the pack over a tub bath or sponging.

Duration of Pack: For the first hour or two in a pack the temperature of the patient should be taken every half hour. When it is reduced to 102 F. the pack should be removed, for, if it is continued longer, too great a reduction may take place. If it rises again rapidly to 105 F. or higher, it is well to keep the patient in the pack continuously. The degree of cold necessary, in the individual case, to keep the temperature within safe limits will soon be learned. I recently kept in a pack for seventy-two hours a boy four years old, with a lobar pneumonia. In this case a continuous pack of 70 F. was required to keep the temperature at 104 F. or slightly lower. The towel or other material employed should not be used for more than six hours, when it should be changed for a fresh one. Another reason for frequently taking the temperature is that early in the attack we do not know how it will be affected by the continued cool applications. In some children it is very readily influenced, and in such a case collapse might follow a very sudden reduction of the temperature. In cases readily controlled, the pack may be necessary for only one-half hour or an hour, at intervals of three or four hours. An ice-bag may with advantage be kept at the head when the child is in the pack.

132 West Eighty-first Street.

Antibodies in the Milk of Syphilitic Women.—G. Guicciardi relates considerable clinical and experimental research on this subject in *Ginecologia*, June 15, 1908. He succeeded in demonstrating the presence of specific antibodies in the milk and also in the serum-colostrum during pregnancy. The positive findings were not constant, occurring only in four out of six cases. The positive reaction was obtained even in cases of very old infection in which the presence of the antibodies proved the only possible means of diagnosis. The proportion of antibodies was smaller after systematic mercurial treatment.

AN EPIDEMIC OF HEMORRHAGIC NEPHRITIS FOLLOWING SCARLET FEVER.*

C. F. WAHRER, M.D.
FORT MADISON, IOWA.

The word "epidemic" here employed is used in its most liberal sense, meaning thereby a certain rather prevalent and fairly general disease in a given district. The origin of most diseases has thus far been ascribed to well-known, partly known, or suspected vegetable or animal micro-organisms.

In spite of the admirable achievements of bacteriology and laboratory methods, there are many things not easily accounted for by our bacteriologic findings alone. For instance, one epidemic of measles is followed by such sequelæ as otitis, pneumonia, bronchitis, pleural effusions, mastoiditis, etc., while after other similar epidemics complications are much less frequent or may even be absent. It becomes a question, so far unanswered, why we have these different manifestations of the same disease.

THE EPIDEMIC.

In Lee County, Iowa, in the southeastern corner of the state, with Fort Madison as a center, we had in the early months of 1906 a very ordinary epidemic of scarlet fever, attended by few of the usual complications and sequelæ. There was a very low mortality, especially low when we consider that hemorrhagic nephritis followed the scarlet fever in many of the cases.

There were, as well as I could gather from the number reported to the health office and a few of the unreported, about 195 or 200 cases of scarlet fever from December, 1905, till May, 1906, in the town of Fort Madison, and there was also a fair sprinkling of cases in the surrounding country within a radius of from five to fifteen miles.

The whole number of deaths did not exceed six, either directly from the disease or from its sequelæ, or a fraction over 3 per cent. in all. Out of this total of 195 patients about 35, or 18 per cent., had hemorrhagic nephritis. Out of the six that died only two died from nephritis, but whether death was caused by this alone I could not definitely ascertain, as the observers reporting them reported from memory only, having no case records from which to refresh their memories and to furnish in detail all the factors entering into all the causes of mortality. All my own patients recovered except one, who died from adenitis with deep phlegmonous streptococcic infection of the cervical and parotid regions.

Sequelæ of some sort are by no means rare in scarlet fever. We nearly always have some nephritis, some cervical infections, otitis, paralyses with temporary or sometimes permanent loss of function of members affected. But to have so large a percentage of cases of hemorrhagic nephritis and so very few other sequelæ is all the more remarkable, since no cause can be assigned except mere chance, and I for one am not a very strong adherent to the doctrine of chance as an etiologic factor in disease. I have witnessed in all twelve or more scarlet fever epidemics, some in which the mortality was quite high, both from the disease itself and from the sequelæ as well, but in none was there such a preponderance of nephritis as in this one, and certainly none showed as high a percentage of the hemorrhagic form.

Before giving the pathology of this form of nephritis, I will give you the treatment employed for the scarlet fever itself, so that you may observe beforehand what relation, if any, it bears to the nephritis following, as we well know that certain drugs employed may produce a toxic nephritis in certain persons so predisposed.

TREATMENT OF THE SCARLET FEVER.

No stereotyped treatment for scarlet fever thus far is known. Patients with mild cases see no physician, and do not even go to bed. Others require more or less attention, but the treatment is usually symptomatic. Most of my patients were ordered to take a tepid sponge daily, followed by inunction of lard with some mild antiseptic, as boric or salicylic acid. This usually keeps the temperature within limits and gives comfort to the child, allaying the itching. The bowels were kept open with small doses of calomel or Rochelle salts, and when there was vomiting bismuth was added. Ventilation was insisted on and the temperature of the room kept at from 68 to 72 F. Urine was always examined early in each case, as we generally find some albumin even when we have no marked nephritis. When the quantity of urine was diminished, milk diet was enjoined with small doses of digitalis and potassium citrate. When fever was high, 104 to 105 F., or more, bathing was ordered and in persistent cases the wet-sheet pack was employed at 70 or 80 F. These simple procedures were usually sufficient to treat the average case of scarlet fever. Thus it can be seen there was nothing in the treatment prejudicial to the best interests of the patient.

PATHOLOGY OF DIFFUSE NEPHRITIS.

Now considering the pathology of diffuse nephritis, we usually find not only the parenchyma of the kidney involved but also the interstitial tissue. Hence we have a diffuse nephritis. We have here an enlarged and edematous kidney, distended vessels with accumulation of round cells in groups, especially around the afferent vessels of the glomeruli and from there around the capsules.

Various interpretations have been given for these round cells. Orth claims that they are derived from the connective tissue cells. Councilman says that they correspond to Unna's plasma cells and are found at the boundary zone of the pyramids in the cortex beneath the capsules and around the glomeruli. He found them also in the blood vessels of the boundary zone associated with lymphoid cells, but without interstitial infiltration.

The blood vessels themselves show no alterations, though some authors have described hyalin degenerations of the intima, or swelling of the muscular coat, and adventitia with deposits of cells and accumulation of fibrous masses and desquamation of the endothelia, in nephritis of scarlet fever and diphtheria.

Microscopically, a granular brownish-red, coagulated mass is found in Bowman's capsules and especially in the uriniferous tubules, the straight and convoluted; the latter especially contain hyalin casts and renal epithelium in process of cloudy swelling and various stages of disintegration.

The microscope in all my cases revealed the presence of blood corpuscles, hyalin and granular casts, renal epithelium in all stages of degeneration and, in some cases, bacteria. Chemically, albumin was found in quantities from 0.125 to 1.5 per cent. The specific gravity was frequently high, owing to the very small amount of urine passed, until the treatment modified the condition. Many specimens contained so much blood as to make the urine very dark red and opaque.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The dropsy, the second prominent phenomenon, has all the characteristics of renal dropsy. It usually develops early, and unless the patient is under constant observation by the physician it is often the first symptom reported by the parents. The amount of dropsy is not always in proportion to the amount of albumin or other urinary phenomena. These may be very pronounced when there is but little dropsy, and the converse may be true.

MODE OF RECOVERY.

Now a word or two as to the mode of recovery. The inflammatory process may undergo more or less involution by absorption of the interstitial exudate, the removal of the contents of the uriniferous tubules by the urine, and partly also by absorption and regeneration of the epithelium, by forming new elements from the cells which may remain. Thus a recovery, more or less complete, may result; if incomplete, we have a loss of secreting parenchyma, and scattered areas of contraction.

To ascribe the amount of toxicity to the height of the fever, as some do, is impossible in this particular epidemic, as the temperature did not run very high during the scarlet fever itself. Moreover, we often find a toxic nephritis where there has been but a low preceding temperature. So it is to be inferred that there is still present to account for the amount of toxicity some unknown factor for which there is no name, unless this unknown factor be called a mixed infection mainly due to streptococci, as has been suggested by Herrick of Chicago.

The scarlatinal nephritis seldom makes it appearance until after the febrile stage is nearly or entirely over, presumably because the infection was prior to this exhibited in the skin. When desquamation begins this infection becomes manifest in the kidneys, because absorbed by the lymphatics and carried to the kidneys. where it may set up, not only the usual nephritis but a glomerulonephritis, in addition to the interstitial and parenchymatous condition. This diffuse form of nephritis belongs to scarlet fever during the stage of desquamation. We may find it much more rarely in malaria, diphtheria or in the secondary stage of syphilis. When seen in scarlet fever it is usually of grave character and a variegated symptom-complex.

The most important phenomena are the urinary changes and the dropsy. In nearly all the cases which I observed in this particular epidemic a genuine hematuria, hence a hemorrhagic nephritis, was present. By microscopic examination I found blood corpuscles in large quantities, thus establishing the diagnosis after excluding all local sources of hemorrhage, as from the bladder or urethra. It is well to observe also that in a few cases there was only a hemoglobinuria in which there were no blood corpuscles or only a few. This was also further attested by the well-known Heller test for blood.

It may be suggested by some in discussion that certain drugs used in the treatment of the primary disease may have been responsible for a toxic nephritis. We are aware that chlorates, sulphuric and oxalic acids, sorrel, chloroform, ether, mercury, glycerin, turpentine, carbolic acid, tar, naphthol and other antiseptics may produce a nephritis when ingested or applied locally. Further, certain foods and beverages, mustard, radishes, pepper and alcohol may, in susceptible people, also produce kidney inflammation. Exposure to cold is also an unquestionable factor in the etiology of the disease. As far as could be ascertained, none of these factors was responsible for the epidemic described.

There is also a widespread tradition among the laity, shared by many physicians, that taking cold during desquamation causes the disease to "strike in" and thus produce the mischief. While this does not sound very scientific, yet it is well to caution patients to keep comfortably warm during the scaling period and thus avoid the factor of cold. By the application of ointments or bacon rind the pores are kept relatively closed and little moisture is lost by perspiration; hence the fluid passes through the kidneys, thus flushing them.

TREATMENT OF THE KIDNEY LESION.

Now, as to the treatment of these cases I would call attention to the fact that the treatment given for the primary disease was in itself prophylactic. When the much-dreaded scarlatinal nephritis appeared the measures early begun were now most strictly carried out and supplemented as follows:

The patient was put to bed and kept comfortably covered. Milk diet was ordered; any kind of milk was allowed, sweet, skimmed, sour or buttermilk, or junket made with rennet, or whey. When this became distasteful, or amelioration set in, light broths, animal or vegetable, were permitted; crackers, toast and cocoa also were added. Carbonated mineral water and "soda-pop" were much used. All spices and condiments were absolutely forbidden. When dropsy was extreme, fluids were restricted as much as possible.

A weak infusion of digitalis with small doses of potassium citrate was given every three hours, or a substitute of an elixir of sourwood compound, containing to each dram two grains each of sourwood and Canadian elder and one-fourth grain of squill. When dropsy was a marked feature, especially with high temperature, my mainstay was the wet-sheet pack employed twice a day for two hours each time. When the patient improved the pack was used once a day. This never failed to relieve and prevent uremia, reduce the temperature and give general relief. In a few cases where the hematuria was intense and stubborn, ergot was administered three times a day, in some cases with benefit, in others with no apparent results. In many cases the dropsy, hematuria and consequent albuminuria responded in one or two weeks, but most of them persisted for five or six weeks with slight albuminuria for three months. Apparently all the patients made complete recoveries. None has since died from intercurrent affections as far as I have been able to ascertain.

I have asked most of my colleagues to give me data of their cases, but as none of them keeps case records they were unable to give me anything except cursory facts gathered from memory. This after a lapse of two years would not be very exact nor reliable. Some said they had had a number of patients, most of whom recovered, while some died from the nephritis. Other physicians had had but few patients, most of whom recovered; others, again, could not remember having had cases of hematuria. A few did not notice the urine at all, hence their experience would be of little value in this report. But I take it from a consensus of their conversation with me that their average experiences were similar to my own.

SUMMARY.

1. This was an unusually mild epidemic of scarlatina.

2. An unusual number of patients had albuminuria and nephritis as sequelæ.

3. A large percentage of these had diffuse nephritis with hematuria and hemoglobinuria.

4. Nearly all the patients recovered from what is usually considered a most serious complication.

5. None of them has since shown symptoms of relapse or imperfect recovery. The future may show exceptions.

6. We are still in the dark as to certain etiologic factors in disease phenomena.

1007 Fifth Street.

ABSTRACT OF DISCUSSION.

ON PAPERS OF DRS. KERLEY AND WAHRER.

Dr. Henry Enos Tuley, Louisville, Ky.: One of the factors in epidemic scarlet fever which has not been brought out is the milk supply. This was illustrated recently in Chicago. A severe epidemic of scarlet fever was caused by the milk from a large dairy, it being found on investigation that one of the milkers was in the stage of desquamation following scarlet fever. I have noticed in several epidemics in a large orphan asylum in Louisville that scarlet fever is much less contagious than the other exanthemata. I have noticed too that isolated cases of scarlet fever are often much more severe than those seen in epidemics. One such case I can recall in which there was marked hyperpyrexia, a severe double otitis media, a marked membranous angina, involving the larynx, and requir- intubation and finally tracheotomy, nephritis and pulmary edema from which the child died. Because of the frequency with which streptococci are found in the throat I believe that we get good results from the use of the antistreptococcic serum, especially in the presence of hyperpyrexia.

Dr. R. B. Gilbert, Louisville: It is a well-known fact that the germs of scarlet fever are carried by the exfoliations and that they retain their vitality for many months. As to Dr. Wahrer's remark relative to bacon-rind, I think that a better thing would be fresh hog's lard. Another thing that interested me was the statement as to the recurrence of scarlet fever. I took the stand in a paper on this subject that measles, scarlet fever, smallpox, etc.—any one of these diseases—will occur but once in an individual, ordinarily, yet every one may a second time occur, and I recall one patient, a girl, who had measles a third time. I believe that it is due to the fact of a difference in the route of entrance of an infection. If, for instance, it enters through the bronchial mucosa, these glands will forbid any further entrance through that route, but the lymphatics of any other route may not forbid an attack. I recall a case in which a child, sick with measles, was visited by a cousin who had had the disease, and later the second child developed the condition. I do not believe that any drug has any control over scarlet fever. I want to draw the line against a cold draught in scarlet fever, for it is a well-known fact that a draught of air in such cases increases the danger of nephritis. I believe that daily high irrigation of the colon with normal saline solution is most efficacious.

Dr. H. M. McClanahan, Omaha, Neb.: I agree that the contagiousness of the disease is not active during the first twenty-four hours. I doubt the wisdom of letting go broadcast the statement that at the end of the third week it is entirely safe to permit a child with scarlet fever to associate with other children. I recall a case of scarlet fever that was taken from a piece of flannel that had been kept ten months. In scarlet fever, when the temperature falls and the heart remains fairly rapid, is it not an indication of endocarditis? As to its occurrence in infants, von Pirquet of Vienna, of 1,056 cases, saw but one patient as young as 4 months, and but three under 1 year. I recently had an experience in a poor family in which a child under 9 months was repeatedly exposed yet failed to contract the disease. Dr. Kerley says that in probably 10 per cent. of the cases the Klebs-Loeffler bacillus was found. I would like to know in what number of those cases did they discover a laryngeal complication following. This would be pretty good proof whether the Klebs-Loeffler bacillus is the cause of the disease or not. My observation has been that nephritis is more likely to follow the mild cases than the severe cases, and I have thought that was because they were permitted to be up early. I have, therefore, made it a rule to require every one of these patients to remain in bed four weeks.

Dr. F. S. Churchill, Chicago: I want to speak of one point that is very important, and that is the statement that scarlet fever is not contagious after the third week. It is a generally accepted idea that scarlet fever is contagious as long as desquamation lasts. Mallory has made an investigation of the desquamation in which he found some organism which he thought might be the means of communicating the disease. I do not recall how long he persisted in the investigation, but until we know what is the specific organism in scarlet fever I think it would be a dangerous thing to let out of quarantine any child who is in the desquamating stage. I do not think that this section should allow the opinion to prevail that we do not believe that scarlet fever is contagious after the third week.

Dr. J. W. Van Derslice, Chicago: As to the development of scarlet fever in infants, I had an experience this winter which has some bearing on the question. A boy 6 years of age contracted scarlet fever. Six days later an older brother came down with an attack and three days later a breast-fed infant developed the fever. The infant had a moderately severe fever; the temperature was never higher than 103, pulse never over 130. During the three weeks it developed hundreds of petechiæ over the body. There was no other apparent complication. Dr. George Weaver made a microscopic examination of the blood, but nothing was found. The child died during the fourth week, apparently of exhaustion. In that case I had assured the mother that the child was practically safe from infection, but with all my assurances the mother was very careful of the child. We had a trained nurse; the child was never taken into the sick-room, and the mother never entered the room.

Dr. H. B. Whitney, Denver: Whenever I ask students the treatment for any disease whatsoever I have noticed that they almost invariably reply: "Open the bowels with calomel, reduce the temperature, give plenty of fresh air and plenty of nourishing food." I have tried to get away from the routine method of procedure in scarlet fever and have paid considerable attention to the throat. I have been using with satisfaction the sozoiodolate of sodium which is not attended by danger, and which has been shown to possess marked bactericidal properties. An insufflation of the pure powder is made at each visit, and sometimes in the intervals by the nurse. In infants 1 to 2 drams of a 2 per cent. solution is given every hour, or in older children used as a gargle. With this I have also used at times a 50 per cent. alcoholic solution of resorcin. I can only say of this method that it has been satisfactory to me and that I have felt I was doing something rather than merely following a routine. In regard to the source of infection, in Denver a patient of mine told me that five families in the same street having a case or more of the fever had been taking milk from the same dairyman as she, and she wondered if the disease had been contracted in that way. I at once reported the matter to the health commissioner, an investigation was made and it was found that one of the milkers was in the desquamating stage. Over sixty cases resulted from this source of infection.

Dr. Charles Douglas, Detroit: Dr. Kerley referred to the fact that very young children did not take scarlet fever and also stated that they were not subject to sore throats. I find by examination of the throat always that children of that age have as much sore throat as older children.

Dr. John Lovett Morse, Boston: I wish to say a word. I believe that we should regulate the diet in scarlet fever as we would in nephritis, that with the idea of protecting the kidneys. We know that the kidneys eliminate the products of carbohydrate and fat digestion and metabolism very easily, but have difficulty in eliminating the products of proteid metabolism, extractives and certain salts Consequently we should cut down the foods that may irritate the kidneys, keep the milk low cut out broths, beef tea etc entirely, and feed the child on carbohydrates, especially starches, diluted cream, and later green vegetables and fruits

Dr T G ALLEN, Chicago I have seen two cases that I was absolutely sure were scarlet fever and in which I could find no desquamation That there are often cases without desquamation is to be assumed, as we frequently get cases of nephritis with a history of sore throat but no history of desquamation As to immunity in infants due to the fact that the mother is nursing the baby, Dr Van Derslice did not say whether the mother of his patient had ever had the disease If the mother had ever had scarlet fever then his case may be taken as an exception to the law that in general communicable diseases produce antitoxins or antibodies in the blood and that these being also present in the milk confer a certain amount of immunity on the nursing child If this mother never had scarlet fever then this case is a confirmation of the law *rather than an exception to it* Dr Van Derslice, however, is correct in believing that previous disease in the mother does not always confer immunity on the nursing baby I recently saw a case of measles in a nursing baby six months old and I know that this baby's mother once had the measles I have been in the habit of examining the urine of my scarlet fever patients every two or three days, but I think that Dr Kerley's plan is a better one I commend especially his plan of leaving the necessary test tube and reagent at the home of each patient

Dr W W BUTTERWORTH, New Orleans Dr Moise brought out the fact that the nephritis is due to the toxemia and it seems to me the part of wisdom not to use drugs that would only tend to precipitate such a condition For that reason I would be opposed to the use of chlorate of potash I think that possibly the blood picture will help us to clear up the matter of diagnosis Our experience has led us to believe that sodium sulphite or sulphurous acid may have some value as a prophylactic in this condition It can not have any injurious effect If it is given to children in whose surroundings scarlet fever exists, my conviction is that none of these children will develop the disease

Dr B H BLAIR Lebanon, Ohio I agree with Dr Kerley as to the limited infectiousness of the disease in the early period of scarlet fever, also that it diminishes in infectiousness after three weeks I also believe in the danger of communicating the disease from the nasal discharge or from the discharge in otitis media so common in these cases, and also the discharge from a suppurative adenitis I should like to ask whether it is possible by the reaction of the urine to determine whether a case of hemorrhagic nephritis is the result of scarlet fever. Hemorrhagic nephritis, I understand, more often follows scarlet fever than it does diphtheria I had a case a few years ago that I thought was diphtheria There was no eruption and no desquamation A hemorrhagic nephritis developed, but an ounce of urine was voided within twenty four hours and on boiling it became consolidated There was a general edema and edema of the lungs Was that case one of scarlet fever rather than of diphtheria?

Dr T B COOLEY, Detroit The question has been raised whether there is any possibility of a specific diagnosis of scarlet fever I want to call attention to Schereschewsky's recent work on a blood reaction in scarlet fever analogous to that observed by himself and Fornet in syphilis This was published in one of the late numbers of the *Munchener medicinische Wochenschrift*, and seems to me promising Another thing of importance is the observations made in the London fever hospitals on the infectiousness of the later desquamation They have been releasing patients in the late stages of desquamation, and there has been no increase in the number of return cases' They lay more stress on the infectiousness of discharge from the nose, throat and ear It is a question whether desquamation *per se* is ever infectious

Dr C G KERLEY, New York In reviewing the 515 cases I had no idea of going in detail I attempted only to give the results in some essential points As to the late desquamation not being infectious I made that statement advisedly Whether it is wise to teach it is another thing What we all want is the truth I have repeatedly seen children during the latter stages of desquamation play with their fellows and other unprotected children in their own family, and these unprotected children did not take the disease There must be some definite time, however, when a child who has had scarlet fever may return to his usual life It is a safe rule that this time shall be at the completion of the desquamation period In both of the cases of secondary desquamation in the child referred to, many unprotected children were exposed and not one developed the disease One of these was in a summer hotel where the child came into contact with dozens of the unprotected children The determination whether we have a streptococcus or Klebs Loeffler infection to deal with will not help us very much Only last year I had two cases of streptococcus membranous laryngitis Examination of the membrane failed to show the diphtheria bacilli Three other cases of this nature have been reported I believe that in all severe cases the non milk diet is the best one The diphtheria antitoxin is *of value only if there is a Klebs Loeffler infection* There is absolutely no reason why it should be used under any other conditions

As to the use of chlorate of potash the danger from its use has been greatly over estimated When used in rational dosage instead of being of danger to the kidneys I believe that when there is marked angina it tends to prevent nephritis I believe that when we keep the throat as free as possible from infectious material we are doing much to ameliorate the general condition The throat is unquestionably a distributing center for the contagium and other infections If chlorate of potash had had the effect on the kidneys that is credited to it, the combination of chlorate of potash and iron used in thousands and thousands of cases of scarlet fever and diphtheria would have resulted in the death of nearly all to whom it was given The chlorate in small doses, two to four grains at two hour intervals, six doses in twenty four hours, whether in measles, scarlet fever or other illnesses, has no more effect in producing nephritis than has diphtheria antitoxin in producing paralysis As to the use of cold air I did not mean to imply that I undress the child, put him before a window, and let cold air blow on him Such a procedure is not necessary in order to give the child fresh air.

Dr C F WAHRER, Fort Madison, Iowa No less a man than Senator, of Heidelberg, advised the use of bacon rind I would not insist on bacon rind, in fact, I advise the use of lard, with some mild antiseptic, as boric or salicylic acid, but the bacon rind is better than nothing I do not know whether we find more cases of hemorrhagic nephritis following scarlet fever than we do following diphtheria, but I believe that there are Scarlet fever and diphtheria are very much alike in many respects, and we have many of the same sequelæ, so that it is not necessary for the doctor to assume that he had a case of scarlet fever without the eruption We know that cases of diphtheria, diagnosed by the presence of the Klebs Loeffler bacillus, have been followed by nephritis

CHILDREN OF THE TUBERCULOUS [*]

THEODORE B SACHS, M D

CHICAGO

A study of autopsy statistics with reference to occurrence of tuberculous lesions at various periods of human life, discloses a vast discrepancy between the great frequency of postmortem evidence of tubercle infection and the rate of mortality attributable to the disease itself.

The figures drawn from postmortem findings vary *according to the source of material. age at death,* interpretation of lesions, exclusion of patients dying from tuberculosis, etc.

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[*] Read at the Fourth Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, held in Chicago June 5 7, 1908

From Heitler's postmortem records[1], giving a percentage of 4.7 of obsolete tubercle in 16.562 cases, up to Nägeli's astounding estimate of 99 per cent., there is a vast number of observers whose figures vary between 30 and 70 per cent.

Autopsies on children dying from various causes show an increase in the frequency of tuberculous lesions with the progress of age, as would be expected from the gradually accumulating opportunities for infection.

Professor Ganghofner (quoted by Bulstrode) presents the following results of eighteen hundred autopsies on children dead of diseases other than tuberculosis:

TUBERCLE INFECTION IN CHILDREN DYING OF OTHER DISEASES.

No. cases.	Age in Years.	Percentage Infected.
460	1	7.1
536	1-2	16.0
476	2-7	24.5
271	4-6	26.9
123	6-8	26.8

These figures have reference to children of the poor and may possibly be found high for children of all classes. The fact is, however, obvious that the extremely frequent incidence of tubercular infection at various ages, as disclosed by postmortem findings, is out of all proportion to the actual development of the disease or its fatality.

Cornet, in his volume on tuberculosis in Nothnagel's 'Practice," gives the mortality from tuberculosis in children under 15 years of age to each ten thousand of the living population as 8.85 per cent. for males and 10.44 per cent. for females, the proportion being much higher for the succeeding periods of life, viz., between 20 and 30 years of age, 34.68 per cent. for males and 29.14 per cent. for females. His figures show a comparatively high mortality in the first year of life, a gradual decrease up to ten years, and then a progression in the number of cases for each following decade until seventy.

INVESTIGATION: (a) FREQUENCY OF TUBERCULOSIS AMONG CHILDREN OF TUBERCULOUS PARENTS; (b) INFECTION AS A FACTOR.

If autopsies on children of various classes disclose, in a large proportion of cases, imprints of tuberculosis in the lymphatic system, lungs and other organs, the children of tuberculous families, in constant contact with the ever-present source of infection, must of necessity furnish a much higher percentage of cases.

The present investigation was undertaken with the object of determining, if possible, the prevalence of tuberculosis among children of tuberculous parentage; with this in view, 146 families with one or both parents known to be tuberculous, were selected from the records of the Chicago Tuberculosis Institute, the Visiting Nurse Association and my private practice.

The parents were classified as follows:

	Fathers.	Mothers.
Tuberculous	32	58
Dead from tuberculosis	43	22
Non-tuberculous	71	66

In seven families both parents were tuberculous. Fifty-eight per cent. of all deaths from tuberculosis among the parents occurred within one year preceding the investigation; 79 per cent. within two years.

The families were of the average laboring class, living in the poorer districts of this city, in most cases impoverished by the protracted illness of father or mother. It is evident, then, that the prevalence of tuberculosis among children under such conditions was dependent on the operation of various factors, as close contact with the source of infection, generally an unhygienic and crowded home, and poverty with all its attendant unfavorable conditions of life.

The results of the investigation were as follows:

Total number of families, 146.

	Born.	Died.	Living.	Exam.	Tuberculous.	Non-Tuberculous.
Born before parent became *tuberculous*	458	93 (20%)	365	230	126	104
Born after parent became tuberculous	155	41 (26%)	114	92	45	47
Total	613	134	479	322	171	151

An estimate of the incidence of tuberculosis among these children can be drawn from the consideration of 77 families, in which the entire number, viz., 264 children, were examined; in 76 of the children, 29 per cent. of the total number, positive evidence of tuberculous infection was found (among children under 10 years of age the percentage was 25).

An investigation of the same seventy-seven families gives a total of 28 per cent. of tuberculosis for the children born before the parent became tuberculous and 31 per cent. for those born after; the higher percentage of tuberculous cases among the second category of children can not be solely ascribed to the lower resistance of children born of parents tuberculous at the time of their conception; consideration must be given to the effect of poorer surroundings, into which the tuberculous sufferer gradually drifts with the progress of his disease, as well as to the closer contact of younger children with the source of infection.

The mortality from various causes in the first group of cases was 20 per cent.; in the second, 26 per cent. Of the entire number of deaths up to the time of the investigation, 47 per cent. occurred in the first year of life, 16 per cent. in the second.

Ten per cent. of the mortality was ascribed to tuberculosis, 35 per cent. to whooping cough, pneumonia and measles, diseases the designation of which frequently obscures the real cause of death among tuberculous children.

Ninety per cent. of the examined children were breast-fed.

BASIS OF DIAGNOSIS.

Of 171 children found to be tuberculous, 42 (or 25 per cent. of the total number) were above 20 years of age; this was responsible for a considerable increase in the total number of tuberculous cases, as well as the greater frequency of lung findings.

Fourteen individuals, mostly over 20 years of age, had tubercle bacilli in the sputum.

In 72 the diagnosis was based on physical signs, pointing generally to involvement of one apex, combined with afternoon or evening rise of temperature, chronic cough in a few and a variable degree of constitutional disturbance in all. In the majority of those under 15 years of age the physical signs consisted of impaired resonance or absolute dulness over one apex, slightly modified breath sounds, roughened or diminished, bronchial in a few, at times a slight retraction of one apical region and in a certain number of cases crepitation at the end of the inspiratory note. In none of these cases was the diagnosis based on physical findings alone, unless corroborated by the existence of fever, generally a half to one or one and a half degrees above normal, and various other symptoms.

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[1] Quoted by H. Timbrell Bulstrode, M.D., in his Report on Sanatoria for Consumption and Certain Other Aspects of the Tuberculosis Question, a supplement of the 35th annual report of the Local Government Board, London, 1905-'06.

Of the remaining other 85 cases, 9 presented suppurating cervical glands; 2 miliary tuberculosis; 3 pronounced general glandular enlargement, fever and other corroborative symptoms; 7 tuberculosis of bone and joints; 1 tuberculosis of the skin; 4 Pott's disease; 4 were cases of bronchitis, considered tuberculous because of recurring fever and positive tuberculin reaction; in 25 the diagnosis was based on history, general condition, fever and positive cutaneous tuberculin reaction; 20 presented signs pointing to the possible involvement of bronchial glands, the diagnosis being based on that, the accompanying fever, general condition and positive cutaneous tuberculin reaction; 10 patients, chiefly over 15 years of age, showed signs of an arrested tuberculous lesion in the lung.

These cases were distributed among the following ages: Four under 1 year of age, 16 between 1 and 5 years, 36 between 5 and 10, 43 between 10 and 15, 30 between 15 and 20, and 42 above 20.

One hundred and six of these patients (chiefly those under 15 years of age) were subjected to the cutaneous tuberculin test, with the following results: Eighty-three positive reactions, 12 doubtful and 11 negative.

RANGE OF TEMPERATURE.

Of the vast number of children infected in the homes of the tuberculous, only a fraction, at a given time, may manifest signs and symptoms of a rapidly progressing tuberculous bronchopneumonia, general or miliary tuberculosis, meningitis or any other fatal type of the disease. The disturbances of temperature met in this class of cases are too well known to require further description.

Of chief concern in this investigation were the predominant class of tuberculous children who either show slight, at times indefinite, signs pointing to the site of a small lesion, or in whom, even after a thorough study of the mild manifestations of the disease, only a general diagnosis of "tuberculosis" can be made.

If it is a small lesion in the apex or probable involvement of the bronchial glands, the accompanying fever may be mild, requiring systematic observation for its detection and a knowledge of the normal range of temperature of the individual child.

In order to obtain a basis for comparison, diurnal measurements of temperature were taken in 250 apparently healthy children in three institutions which recruit their inmates from families of working men living in various parts of the city; this last condition was considered essential in order to parallel as much as possible the social and hygienic surroundings of the tuberculous children under discussion in this paper. Children suspected of being tuberculous, either on physical examination or on application of the cutaneous tuberculin test, were excluded.

The results of this investigation showed wide fluctuations of morning (9 to 10) and afternoon (4 to 6) temperatures.

In the ages between 5 and 10, the morning temperature, taken by mouth, varied between 99.4 and 100.4 F., the average being 99; the afternoon temperature, 97.4 to 100.5, average 99.3. For the ages between 10 and 15, the morning temperature varied between 98 and 100.2, average 98.2; afternoon, 98 to 100.2, average 99.2.

In the children pronounced tuberculous in this investigation the morning temperature, taken by mouth, for the ages between 5 and 10 years, varied between 97.6 and 99.6, average 98.3; afternoon, 98.2 to 101, average 99.7. Between the ages of 10 and 15, the morning temperature varied from 97 to 99.6, average 98.4; afternoon, 98.8 to 100.4, average 99.5. Between the ages of 15 and 20 the morning temperature was 97.4 to 98.6, average 98.2; afternoon, 99.2 to 100.2, average 99.6.

In a large number of cases the noon temperature was the highest of the day.

The present investigation led to the following conclusion:

1. A child infected in the surroundings of a tuberculous patient may show but a slight rise of temperature above normal, the rise not exceeding a few tenths to one degree.
2. This deviation from normal temperature may occur late in the afternoon (4 to 6 p. m.), in the evening, or frequently at noon.
3. The existing range of temperature of a tuberculous child is subject to considerable variations, caused at times by trivial factors.
4. The children in whom mild tubercle infection causes but slight deviations from normal range of temperature may display at times "waves" of fever, of a few hours' to a few days' duration, these disturbances being caused either by extension of the lesion or more vigorous absorption of tubercle toxins.
5. In order to gain an idea of the fluctuations in temperature of a child suspected of having tuberculosis, the temperature should be taken several times a day and for a reasonable period of time.

HABITUS PHTHISICUS.

At the time of their birth and in the first few years of life a vast majority of children of tuberculous parents may show in their general appearance no deviation from the normal type.

An offspring of a consumptive mother in the advanced stage of the disease may be handicapped from the outset by imperfect physical development, low grade of nutrition and lack of vital resistance—a condition characteristic of the various types of children born of parents in an undermined state of health.

Cornet and others suggest that the habitus phthisicus encountered in a certain number of tuberculous individuals may be the result of antecedent tuberculous infection.

On measuring the chests of three hundred children in the families of tuberculous parents, I found that in the first year of life the type of chest, in nearly all, does not deviate from the almost circular normal type, the ratio of the anteroposterior and transverse diameters being 8 or 9 to 10. This ratio gradually changes to the average of 81 or 84 to 100 during the first five years, 77 to 100 between 5 and 10 years of age, 72-75 to 100 between 10 and 15, and 74 to 100 between 15 and 20 years.

Poverty and unfavorable home surroundings were partially responsible for the low grade of nutrition in about one-third of the 322 children examined.

INFLUENCE OF ENVIRONMENT.

The 146 families under investigation were of the class in which the combination of poverty and crowded, unhygienic home would naturally favor the spread of infection. This explains the higher percentage (29 per cent.) of positively tuberculous children.

In his paper on "Schools and Tuberculosis," read at the last annual meeting of this association, Dr. J. H. Lowman gave 20 per cent. as the number of positive and suspected cases of tuberculosis among children in more or less close contact with a source of infection.

Grancher[2] found 15 per cent. of positive or suspected cases of tuberculosis among 4,226 school children of Paris.

In our quota of cases all the children examined were in close contact with a prolific source of infection in their homes, the majority of the parents suffering from pulmonary tuberculosis in the advanced stage.

CUTANEOUS TUBERCULIN TEST.

The cutaneous tuberculin test of von Pirquet (25 per cent. solution) was employed in 217 children of the 322 examined.

Results of the von Pirquet Test.

Age.	No. Children.	No. positive.	Percentage. positive.	Percentage negative or doubtful.
1	8	2	25	75
1-6	58	25	43	57
7-14	108	53	49	51
15-20	28	17	60	40
20 +	15	11	73	27

These figures agree to some extent with the result of the same test employed in 460 positive or suspicious cases of tuberculosis by Dr. Petruschky, whose article appears in the May number of *Tuberculosis,* the monthly publication of the International Tuberculosis Association.

Dr. Petruschky's results were as follows:

	Percentage. positive.	Percentage negative or doubtful.
12 sucklings	0	100
22 children from 1 to 6 years	50	50
148 children from 7 to 14 years	75	25
69 children from 15 to 20 years	86	14

The rare occurrence of positive cutaneous tuberculin reaction in the first year of life is as significant as the gradual increase with age in the number of positive reactions.

The occurrence of 108 positive tuberculin reactions in our 218 cases, or 49.5 per cent., can be compared with the results of application of the test by von Pirquet to apparently healthy children (about 15 per cent.).

CONCLUSION.

Incidence or infection of children by tuberculous parents must, of necessity, vary with the different conditions of life.

Lack of hygiene, combined with enforced closeness of contact in the homes of the poor, facilitate the more widespread dissemination of the infecting agent.

While the detection of the well-developed forms of tuberculosis in children is possible with the aid of the present diagnostic methods, the implantation of the tubercle germ does, no doubt, occur in a wider circle of instances.

To what extent hereditary predisposition is responsible for the development of the disease in individual cases can never be determined, according to Cornet, until the factor of infection is completely eliminated.

The question of connection between tubercle infection in infancy and childhood and the manifestations of the disease in later life is still awaiting a solution.

The researches of von Behring, Calmette and others are gradually turning the trend of modern medical thought toward an interpretation of the term "predisposition" as a susceptibility of the tissues dependent on antecedent infection.

Of the large number of children infected through close contact with tuberculous parents, only a certain proportion present the well-known manifestations of a fully developed disease of the lungs or other organs; in the vast majority the incidence of infection remains unrecognized.

The increase in the frequency of tuberculosis with the advance of age from childhood to adult life makes it evident that eradication of tuberculosis in the human race can never be accomplished unless the child, first of all, is protected from infection.

In conclusion, I wish to express my appreciation of valuable services rendered in this investigation by Dr. M. Biesenthal, my associate, and the nurses of the Chicago Tuberculosis Institute and of the Visiting Nurse Association.

100 State Street.

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[2] Quoted by E. R. Baldwin in Osler's Modern Medicine.

THE PROBLEM OF HEART MALADIES.

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In the category of disease there are many problems. Chief among these are the cancer problem, the tuberculosis problem, and the problem of the infections. These widespread disease conditions, affecting many human lives, justly engage the attention of medical men. Every means of investigation and research looking to the protection of these immense interests should be thoroughly and completely exhausted. Each one of these problems has its peculiar and individual characteristics; each has its distinctive origin, its mode of propagation and its means of correction. But I wish to emphasize the importance of another problem, no less serious, no less widespread and no less vital to the welfare of mankind than those above referred to, and that is—the heart disease problem.

By the light of recent investigation of this subject, by the great advances made in the study of the cardiac processes, and by the success achieved from the new work over those formerly unsolved problems of heart pathology, medical investigators and clinicians have forced this important question to the front, where it is now receiving just consideration. In taking up the study of the heart problem (which, in a brief paper, can only be outlined), one should point out certain facts regarding present knowledge of the physiologic action of the heart, give a résumé of the most prevalent causes producing abnormality of that organ, and show the agencies necessary to abridge the frequency of its occurrence or to make this disease process most impotent in its curtailment of the comfort and safety of persons.

To show that it is a question worthy of attention, I shall adduce two illustrations. I have before me an insurance report covering the cause of death of 9,592 selected white men, dying after reaching 21 years of age. These men were chosen as to vocation, being in no way connected with the manufacture of alcoholic beverages, nor engaged in any hazardous employment, living, it might be said, the better life of the American citizen. These men were selected as to their family histories being free, as far as possible, from hereditary taints. These men were chosen after careful inquiry into the personal history, each being free from the effects of any previous illness. Lastly, they were subjected to a physical examination as to the soundness of their organs and were pronounced as being first-class specimens of physical manhood. This record of 9,592 deaths shows many different causes. Nearly every disease in the category of disease appears there, but the astounding fact is that of the 9,592 deaths, 1,255 were caused by heart disease: and this without including the deaths from the diseases of the blood vessels.

In a recent editorial[1] a medical journalist said: "During the year just ended (1907) heart disease is reported to have caused many more deaths than in 1906; in Chicago and Boston 13 per cent. more; in New York City 29, in Detroit 26, in Philadelphia 5 per cent."

More statistical evidence could be presented to show the place of importance of the maladies of the heart as a cause of death, but this is unnecessary. The statement of the frequency of heart disease as a cause of death is undebatable.

Of late years the study of the heart has been extensively carried on by physiologists and clinicians. The present views[2] of modern physiology of the heart began with Ludwig of Leipzig a quarter of a century ago. The ideas advanced and advocated by him were based on the study of the frog's heart. With him the vagus was the actuating and maintaining force in heart beat. Later Gaskell, investigating the heart of the land tortoise, upset the idea of vagus inspiration of heart beat and enunciated the belief in the myogenic origin of heart beat. He described the beat beginning in the sinus venosus and conducted by the musculature on to the ventricles. This view was confirmed by Newell Martin of America. Then came McWilliams, who showed the similitude of the hearts of the cold-blooded animals and of mammalians. Later another factor was introduced into the discussion of the cause of heart beat and its propagation by Ringer and Loeb, who showed that the ions were of value in muscular conduction. G. N. Stewart states in his work in regard to the cause of heart beat: "It is unquestionable that for the normal beat of the heart the presence of both salts (calcium chlorid and sodium chlorid) is one of the necessary conditions, but there is no solid foundation for the view that either the one or the other acts as a special chemical excitant of the automatic contraction."

In late years the renewed study of the bundle of muscular fibers originally discovered by His, Jr., by modern investigators, chief among whom are Retzer and Hernig, has revived the belief in the myogenic view of heart beat. Mills describes this bundle of muscle fibers as beginning just below the fossa ovalis (mammal) and running forward and downward through the fibrous ring between the auricles and ventricles to blend with the musculature of the interventricular septum. This little muscular connection between the auricles and the ventricles has assumed a rôle of greatest importance in the propagation of the heart's action. But Mills says, after many experiments and an extended study of the physiologic problem which has occupied preëminence in the minds of investigators for years, that in man's heart the beat of the heart is dependent on the three factors, chemical, muscular and nervous, and its automatic action is maintained by this trinity of interests. Mills states that "the exact share each takes it is impossible to determine at this time."

The abnormalities of the heart are numerous, being pericardic, endocardic, myocardic, neurotic and circulatory in types. The causes are as varied as are the pathologic effects. But for convenience these causes may be grouped, operating with more or less frequency and severity in all these several kinds of heart disease.

The infectious diseases lead all other causes in importance. The infections affect the heart in every part. They involve its integrity and often assail its continued operation. They leave its structures lame and impotent. Chief among these infections is acute rheumatic fever. There are also diphtheria, scarlet fever, smallpox, pneumonia, gonorrhea, erysipelas and measles, which affect the heart deleteriously. Also conditions of deranged metabolism (both systemic and cardiac), of occupation, of habit in eating and drinking, of systemic arterial change, of coronary sclerosis, of hemic disorders and interstitial degeneracy in viscera, operate as causes in producing lesions of the heart.

Let us specify as to the rôle played by acute rheumatic fever.[3] Church recorded 889 cases of rheumatism, with 494 cases of acute or chronic endocarditis. Thompson recorded 706 cases of rheumatism, with 329 cases of endocarditis. Among 500 cases of rheumatism admitted to Bellevue Hospital, says Lambert, 253 showed endocarditic inflammatory involvement. Thus, says Lambert, in the total of 2,095 cases of rheumatism, 1,076, or 51.3 per cent., showed signs of cardiac derangement of this type. Then we may assert that acute rheumatic fever, as well as other infectious diseases, is active as an agent in the production of cardiopaths, of whom there are countless thousands. The heart in which previous disease has left peri- or endocardic morbidity, or myocardic degeneracy, or nerve-derangement, must be in more or less jeopardy unless those silent but insidious processes which work its undoing and embarrassment are controlled by careful expert attention and treatment.

Pari passu with the enlightenment of heart physiology has come knowledge for determining the nature of cardiac morbidity. Many pathologic states formerly mystifying are now being solved. Much insight has been gained as to the accurate relationship of the auricular and ventricular systole. New light has also been thrown on the probable integrity of the cardiac myocardium by these recent advances in the study of heart diseases.

Formerly the mechanical aspect of cardiac conditions was the chief consideration of clinicians in the study and treatment of cardiac diseases. The murmur resulting from restricted or regurgitant valvular action was the major consideration. The degree of hypertrophy or dilatation and coincident physical signs claimed the attention of the internist.

These elements of heart study have yet important significance, but now, under the wise leadership of such physiologists as Gaskell, Engelmann, Wenckebach, Cushny and others, important advances[4] have been made, and the action, integrity and usefulness of the myocardium are being accurately studied by clinicians in all morbid processes of the heart. The mere invalidity of the valve leaflets and the degree of valvular disease is no longer the sole thought in the study of heart alvular disease. The investigation of the functional derangements of the heart received a great impetus under the influence of the newer discoveries in heart conditions. By the tracings of the venous pulse, by the estimation of the rhythm, excitability, conductivity and synchronicity of cardiac action in its several parts, by the more accurate and earlier determination of tricuspid insufficiency denoting the impending dangers, by the accurate inquiry into the extrasystolic behavior of the auricular and ventricular muscle, in varied systemic and local conditions, valuable and far-reaching truth has been gleaned regarding the diseases of the heart. The numerous instruments of precision used to accomplish this state of knowledge need not be mentioned here.

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[1] THE JOURNAL A. M. A., 1908, l, 44.
[2] Mills: THE JOURNAL A. M. A., 1907, xlviii, 190
[3] Lambert: THE JOURNAL A. M. A., 1908, l, 741.
[4] Erlanger: THE JOURNAL A. M. A., 1907, xlviii, 1343.

Having exploited our present-day improvement in the knowledge of heart diseases, its ubiquity and frequency being acknowledged, let us outline means for the prevention of these diseases and the measures that may be adopted for the prolongation of the usefulness and the life of cardiopaths. The prophylactic phase of the problem can be outlined in one sentence. The infectious diseases, as well as those conditions above referred to as producing these heart maladies, should be nstantly kept in mind by the medical attendant.

All the means and rules suggested to every thinking mind need not be cited here.[5] The mere statement that, to prevent the increased occurrence of heart pathology and its harmful intercurrent conditions, one should teach and preach, in season and out of season, in the sick room and out of it, those natural and self-suggesting lines of conduct which will tend to abridge and curtail the frequency of cardiac disease, is all that the occasion requires. Cardiopaths may be divided into three general classes, (1) those in whom the compensation is perfect; (2) those in whom compensation is waning; and (3) those in whom compensation is lost.

To speak intelligently of this question, we must acknowledge a number of minor classes of cardiopaths. But this division will suffice for our present purpose. The main question is by what means can the first group be kept as such, and how can the largest number of those falling under the second and third groups be reclaimed and placed in the first group. In other words, the duty of the profession to the cardiopath is to support the musculature of the heart.

Some writers on this subject adhere to the old method of dealing with medical matters, an attitude of secretiveness. Instead of withholding the knowledge of a heart lesion, the patient should be informed of the fact. Heart disease should be discovered early and treated persistently to ward off manifold and serious results. Publicity and education are needed. The public should be taught that heart disease, while serious and demanding medical attention, is amenable to treatment. The alarm and the fright incident to the revelation to the patient that heart disease exists can be avoided by the proper education of the public as to the nature, course and termination of the disorders of the heart.

The fact is that there is probably no organ of the body that possesses more hardihood than the heart. Many have been the times when, under treatment, patients appearing almost in the last stages of morbidity from heart disease have improved to the most incredible degree, and for a long time thereafter the heart has been made to do compensatory work. Again, patients presenting a state of cardiac derangement most alarming to the examiner have lived for years in apparently good health. The heart is amenable to treatment, and that treatment should be begun at once and maintained, with more or less constancy throughout life.

I would urge that the first and most fundamental step to be taken in trying to protect the cardiopath from an untimely end is publicity. Candor, attended by patient and careful explanation, will do much to assist in the correction of this widespread disease problem. Then, too, the profession should be quick to appreciate the importance of this disease problem and begin to preach with that same laudable freedom of its dangers as is now being done in the case of other medical problems. Those cardiopaths in whom the compensation is good, in whom the conductivity of the auriculo-ventricular bundle is good, in whom the musculature is supporting cardiac action, may need little or no medicine, but they should, nevertheless, receive the attention and direction of the medical expert as to matters affecting the lesion. The regulation of the kind and amount of exercise, the selection of vocations best suited to the support of the myocardium, the suggestion as to the curbing of certain harmful practices, the education of the cardiopath in matters of marriage, the instruction of the kind of clothing to be worn under certain conditions, the taking of baths, the character of the food, the danger of intercurrent sickness, the use of drugs, the changes of climate, and the dangers of sudden and unexpected death are some of the questions which the medical attendant should consider in treating the cardiopath in this stage.

The conditions of the second and third group must be met with the same candor, but a little more skilfully and carefully. The supervision of the patients of the second group must be more constant, and the management of these cases must be more rigid. Most careful physical examinations and careful testing of the properties of the heart by instruments of precision must be conducted frequently, and remedial measures, whether medicinal or otherwise, must be instituted to regain the compensation beginning to be lost. In these cases cooperation of the patient is of the most imperative significance, as is also the intelligent comprehension of the danger of his condition.

In this class may be placed that group of cases where auricular and ventricular systole want synchronicity, by whatever intercurrent cause brought about, or where the heart block is partial. The same candor and explicit explanation should be accorded these cases, in order to secure success in their management.

The details of the medical management can not be gone into here. Medicines, exercises, special baths, prescribed rest and other means, together with the supremacy of the medical mind over the patient's, may be required to place these cases into the group of compensatory action.

The third group in this problem presents a syndrome only to be compared to the last stages of cancer or phthisis. But, unlike these conditions, heart disease, with its discomforting symptoms of dropsy, dyspnea, surging heart beat and throbbing jugular, etc., offers a field for most brilliant medical achievement. So frequent are the recoveries, and so accustomed are we to these demonstrations of medical success, that proper and just credit is not accorded the physician for such efficient work, placing, as he does, a patient in imminent danger of dissolution, as surely as if he were affected by any other deadly process, in a condition of usefulness and comfort to live out the allotted life period.

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[5] Hirschfelder: The Journal A. M. A., 1907, xlviii, 1105; McCaskey: Id., 1107; Hewlett: Id., 47.

In conclusion, I plead for a more careful treatment of infectious diseases during the acute as well as convalescent stage. Protect the heart. I plead for a more extensive study of cardiovascular diseases, believing it to be fruitful of gratifying results in treatment. I plead for a more general practice of candid and frank statement of heart conditions early in the history of the case. I plead for public education as to prevalence of heart disease, its untimely consequences, and the hope of great protection under medical treatment.

1135 West Franklin Street.

THE NEISSER OR GONOCOCCUS VACCINE IN GONORRHEAL AFFECTIONS OF THE GENITOURINARY TRACT.

AN EXPERIMENTAL STUDY.

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This paper embodies the results of my experiments with the gonococcus bacterin or vaccine. The report is merely tentative and preliminary; a subsequent report will probably give more valuable data concerning this form of treatment. For the last six or seven months I have extensively employed this method of treatment in a number of gonococcic affections invading the genitourinary organs. I have utilized the vaccine not only in the maladies engendered by the gonococcus primarily, but also in the various complications and sequelæ of this type of infection. The cases are varied and embrace different stages and forms of the original malady. The number of cases wherein opsonotherapy was employed was 54, comprising acute and chronic gonococcic urethritis, epididymitis, prostatitis, seminal vesiculitis, adenitis, gonorrheal vaginitis, gonococcic arthritis and the rarest sequelæ of gonorrhea—gonorrheal iritis.

VALUE IN ACUTE AND CHRONIC CASES.

In the acute stage of this affection the treatment was attended by favorable results, pre-eminently so in acute specific urethritis, epididymitis, prostatitis and cowperitis. In the granular form of this affection the results were negative. Only stock vaccine was used and from twenty to forty millions of vaccine—according to the exigencies of the case—were injected in the region of the hip. In the chronic states of this infection, especially in chronic posterior gonococcic urethritis, its utility is doubtful, although some improvement was always noted. No other treatment was instituted, whether internal or topical. Opsonotherapy was the sole agent employed, in order to test its efficacy. The number of injections used in a given case varied from three to eight, and the length of time required to effect a cure in the acute form of gonococcic urethritis ranged from five days to four weeks; on an average the minimum period was ten days and the maximum three weeks.

The vaccine or bacterin possesses a diagnostic as well as a therapeutic value. It is a powerful means of bringing to view latent gonococcic states. Hence as a diagnostic agent it may be implicitly relied on in doubtful cases, especially when the question of matrimony is the paramount issue. There are cases wherein objectively and microscopically all vestiges of the disease seem to have been eliminated, and yet on injecting the gonococcic vaccine the discharge reappears, thus putting us on our guard and demonstrating that the morbid process has not as yet come to a termination.

Gonococcic vaccine acts similarly to tuberculin in disclosing latent and dormant conditions that would otherwise have escaped detection.

In gonorrheal arthritis, for instance, even after an apparent cure, the bacterin will usher in a mild recrudescence of the arthritic process, thus denoting indisputably that the disease has not been entirely eradicated. The same principle applies to affections of the posterior urethra, the result of gonococcic invasion. Seemingly the individual is free from all symptoms. Repeated microscopic examinations of the filaments and flocculi in the urine have proved negative, so that the practitioner is justified in declaring his case "cured"; but on injecting the vaccine he will be surprised to note the reappearance of the symptoms and will then be able to demonstrate with facility the presence of gonococci and other bodies in the sediment on centrifugalization. It would be superfluous to give any specific instances, as this paper deals solely with the essential and salient features appertaining to this method of treatment.

Of course, the most careful aseptic precautions should be exercised in the administration of this remedy. The parts should be thoroughly disinfected, the syringe and needle boiled and every effort made to render the area free from any accidental infection. The pain engendered by its use is very insignificant; a slight burning sensation for a few minutes is all that the patient experiences. Occasionally the injection area may become somewhat inflamed; it disappears in a day or two.

REACTION FOLLOWING INJECTION.

A word about the reaction following the injections. In nearly all cases there ensues a constitutional as well as a local reaction; it is an effect that may always be anticipated. Yet it is not very marked and passes off in a short time. The reaction varies with different individuals, largely depending on the idiosyncrasy of the patient, the intensity of the morbid process, the presence of an additional or mixed infection, the duration of the malady, etc. The temperature may rise from one-half to one and one-half degrees Fahrenheit; there may be slight chilly sensations with some headache and muscular soreness. But the next day the patient feels better and is able to attend to his work.

The Negative Phase.—The local process now becomes more or less intensified: the discharge is markedly increased and there is slight burning on micturition. We term this the negative or reaction phase of opsonotherapy. This reaction is the more pronounced if we have to deal with a gonococcic infection, pure and simple; if other bodies are present at the same time, however, the reaction is *nil* or very mild. Hence, if a gonococcic urethritis is complicated by other pus cocci, the vaccine loses its efficacy. This is the reason it does not always act favorably in chronic cases. In such instances the conjoint administration of both the gonococcus and staphylococcus vaccine becomes necessary. Bacteriologic examination in all cases, irrespective of their stage, becomes imperative in order to ascertain the exact infection one has to contend with. It is a procedure that greatly facilitates the treatment.

The Positive Phase.—After the negative period has existed for about two, or at the utmost three days, the positive phase makes its advent. It is characterized by a decline in the severity of the pathologic process a retrogression of the morbid condition takes place either gradually and slowly or with great rapidity, and at times abruptly, the latter only in exceptional instances, however. This should constitute our guiding factor in repeating the injections, as well as in computing the dosage. At times it may be necessary to repeat the dose at short intervals if no improvement ensues, while again we must not only lengthen the interval, but also reduce the dosage to half of the usual amount, which is twenty millions. As a routine procedure it may be said that twice a week is all that is necessary and the latter should never be exceeded save under exceptional circumstances.

SUMMARY OF RESULTS.

To summarize briefly the results obtained by this particular form of treatment of the affection under consideration, they may be formulated as follows:

1. In acute cases the vaccine acts beneficially, and the time necessary to cure the disease does not exceed four weeks.

2. In some of the complications of gonococcic urethritis, such as epididymitis, cowperitis and acute prostatitis, as well as in gonorrheal adenitis and in involvement of the lymph channels on the dorsum of the penis and in posthitis of the same origin, threatening phimosis, it may be confidently relied on. In the above complications it acts very beneficially and efficaciously and may be considered curative. Lately I have also used it with success in an affection, only rarely encountered during the course of gonorrhea, and which has been denied by authorities, namely, gonorrheal iritis. It is a distinct disease entity and may be seen complicating an arthritis of the same origin or appear independently during the subacute stage of the disorder and during an acute exacerbation of a chronic urethritis.

3. No other treatment, whether systemic or local, is necessary, and irrigations and injections may be entirely dispensed with.

4. In chronic cases it is inert and acts indifferently, owing to the fact that in these conditions one has to deal with a mixed process. The conjoined use of other bacterins, therefore, suggests itself. In these instances the gonococcus vaccine *per se* has reached its limitations.

5. It is a valuable diagnostic agent. It brings to view latent or dormant conditions and thus affords a most important diagnostic means in definitely deciding on whether a given case has been actually cured, which is of inestimable value for sociologic reasons.

6. In dormant gonococcic arthritis it will bring about a recrudescence of the disease. In this sequela it materially shortens its duration and brings about a speedy restitution to the normal.

7. No exact rule can be laid down as regards the dosage and the intervals of the administration of the bacterin; each case must be treated individually.

8. The future possibilities of gonococcic vaccine in particular and opsonotherapy in general are unlimited, promising to give us a new and unexplored field of scientific inquiry. Its bearing on prophylaxis must also be considered and furnishes material for future research. As it now stands the subject is merely in it infancy.

CONCLUSIONS.

Our former conception as to the local aspect of gonococcic, urethritis is erroneous and dangerous, endangering not alone the individual, but also the family an state. That the process is not merely local can be readily adduced from its many and far-reaching complications and sequelæ, as well as by the reaction obtained o the administration of the vaccine, confirming beyon controversy the fact that we have to deal with a constitutional or systemic process of varying degrees of severity that should be combated both locally and constitutionally, notwithstanding the optimistic views of man who hold this affection to be solely a local pathologi invasion.

73 Shurly Building.

HYDROTHERAPY: METHODS OF APPLICATION WITH RESULTS

AS USED IN THE PHILADELPHIA HOSPITAL FOR THE INSANE.

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The purpose of this brief report is to demonstrate what has been accomplished in hydrotherapy in the Philadelphia Hospital for the Insane since the installation of the hydrotherapeutic plant in April, 1907.

The apparatus and the facilities for hydrotherapy are as follows: A douche room containing rain and spray baths, sitz baths with liver spray, perineal and Scotch douche, steam and immersion baths, all operated from control table; shampoo apparatus with marble massage table; three hot-air cabinets for patients sitting, and one for patients reclining; dressing and lounging room with four pack and massage rooms; eight special porcelain tubs for continuous flowing bath, four for males and four for females.

The hydrotherapeutic department is under trained male and female operators, the male patients receiving treatment between 8 and 12 a. m., female patients between 2 and 6 p. m. daily.

Selected patients were given special treatment in both continuous baths and douche room. During the past sixteen months fifty cases were treated in the continuous flowing bath, the length of treatment being from a few hours to seven days in duration, the temperature of the water ranging from 85 to 110 F. Most of the patients treated were excited ones, in whom motor restlessness was marked. They represented cases of mania, acute, chronic and recurrent; excited types of dementia præcox; maniacal episodes of epilepsy, dementia paralytica and senile dementia; alcoholic insanity and insanity of chorea. Most of these patients were greatly benefited by the treatment, especially in the cases of mania, excited cases of dementia præcox, senile dementia and toxic cases, including insanity of chorea.

A brief note on three of the cases will show the improvement observed:

Case 1.—Daniel D., aged 30, white (mania (acute)). On admission this patient was garrulous, vituperative, restless, noisy and hostile in manner. He was placed in the continuous bath Oct. 16, 1907. The temperature of the water was 100 F. Little or no improvement was noted at the end of the first day. On the second day the temperature of the water was raised to 105 F. The patient began to show improvement, which gradually continued, and at the end of the fifth day motor restlessness ceased and the patient was no longer garrulous and noisy. In this case a permanent benefit was observed and the patient was discharged a few weeks later, restored.

Case 2.—Frank D., aged 55, white (toxic insanity, alcoholic confusional), noisy and restless, fearing that he was about to be killed. The patient was placed in the bath June 19, 1907, at 5 p. m. The temperature of the water was 100 F. The patient gradually became quiet, and at the end of the third day was no longer fearful or agitated.

Case 3.—John P. R., aged 18, white (insanity of chorea). The patient was restless with general choreiform movements. He was placed in the bath June 26, 1907, at 11 a. m. The temperature of the water was 95 F. At the end of three days movements became decidedly less in number and extent.

No restraint is used while patients are in the bath. They are allowed house diet with milk and eggs between meals, and careful attention is paid to the emunctories. Sedatives and all forms of internal medication are removed while the patient is in the bath, save on occasional indication for diffusible stimulants. Despite careful padding of tubs, a few patients developed superficial excoriations over the regions of the scapulæ, shoulders, buttocks and elbows. Others complained of tender palms and soles, only, however, after being in the tub several days. One case of acute eczema, involving thighs, legs and feet, which was somewhat refractory to treatment, developed in a colored patient after he had remained in the bath five days.

In two other cases a skin rash, resembling impetigo, developed which was transient in character. We have also treated patients with ichthyosis and psoriasis with at least temporary benefit.

The same care used in selecting patients for the continuous flowing bath was used in selecting patients for treatment in the douche room and hot air cabinets, as little save the detergent and slightly stimulating effect of the baths can be expected from hydrotherapy in the treatment of the chronic insane. Excellent results were obtained by the use of hot air cabinets in toxic cases, especially the acute alcoholic insanities, also cases of mania and uremia; patients in such cases were kept in the cabinet until a profuse sweat was induced. While in the cabinet the patients drank freely of water. They were then given a spray and rain bath for three minutes at 95 degrees F., the temperature being gradually reduced to 80 degrees F., save in the cases of uremia, in which the patients were given a sponge bath after sweating profusely.

A number of dementia præcox patients in a dull, stupid and apathetic state, also a few patients with melancholia and neurasthenia, showed considerable improvement both physically and mentally after use of the spray and rain bath at 90 degrees F. for three minutes, followed by the Scotch douche, moderate to full force at 90 degrees F., gradually reduced to 75 degrees F. for two minutes. the douche being played rapidly up and down the entire length of the spinal column.

Patients with saturnism, with the associated paralysis, also the polyneuritis of alcohol, with and without Korsakoff's psychosis, showed marked improvement and recovery by the use of the hot-air treatment and immersion bath. the patient remaining in the tub thirty minutes and being urged to exercise while in the water.

Painful and inflammatory hemorrhoids were treated daily with the perineal douche; as a result the hemorrhoids shriveled up and ceased to be painful anl inflammatory. It is recognized that constipation is habitual in the insane. Favorable results were obtained by the use of the sitz bath and liver spray daily at a temperature of 100 or 105 F.

For the detergent effect from ten to twenty patients were sent from the ward daily to receive a rain and spray bath. Four thousand such baths have been given during the past year.

Clinical Notes

A COMBINED BRIDGE AND INTRANASAL SPLINT FOR THE CORRECTION OF DEPRESSED DEFORMITIES OF THE NOSE.*

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This apparatus was designed to fill a long felt want; namely, that of a splint that will exert pressure in such a manner that the nasal tissues, once placed in proper position, will be held so until union has occurred. It is recommended for recent fractures, both accidental and operative. for the prevention and cure of deformity, especially depressed deformity.

DESCRIPTION OF INSTRUMENT.

It consists of a bridge made of steel and as light as is compatible with strength (Fig. 1). The bridge is formed by two curved, fenestrated wings 2.5 cm. (1 in.) wide, and joined by a hinge. The distance that these wings can be separated is regulated by a thumbscrew. The edges of the wings diverge to correspond to the shape of the nose, they are padded with rubber, and near the margins are small holes that admit of additional gauze padding being stitched on. The second part of the apparatus consists of two small hard rubber splints, perforated by four small holes.

APPLICATION OF INSTRUMENT.

All the precautions necessary for an aseptic operation are observed and the patient is placed under the influence of a general anesthetic. Assuming that the nasal tissues have been thoroughly mobilized (in doing this I use the method advised by T. Passmore Berens, of New York), the application of the apparatus is as follows: Iron-dyed silk, No. 14, is passed through one of the perforations in the splint and knotted (the hole is selected according to the distribution of the lifting force desired), the other end is threaded into a large curved needle, this is passed from within the nose through the cartilaginous dorsum, just below the end of the nasal bone and near the septum. The splint is now drawn into the nose and adjusted to the roof. This process is repeated on the other side.

The bridge is then applied and the wings adjusted with the thumb-screw to give the proper support to the base of the nasal triangle (Figs. 2 and 3). The sutures are now run through the fenestræ of the bridge vertically above their exit from the nose and drawn tight enough to lift the dorsum into its proper position and reduce the deformity (a slight over-correction is to be preferred), the sutures are then tied together over the bridge, using only sufficient tension to support the bridge. The apparatus is automatically held in position and there is no tendency to displacement; it should be worn for a week or ten days or longer, during which time the patient should remain in bed. In fractures of the nose, union occurs more quickly than in any other part of the body; in uncomplicated cases there is fixation in eight days and bony union in a fortnight.

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* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Since practically all fractures of the nose are compound fractures, in my opinon the patient is subjected to no additional risks from infection by the introduction of a sterilized silk suture through the dorsum. This view is born out in the cases of the patients that I have operated on in Dr. Harmon Smith's clinic, and the results have been excellent.

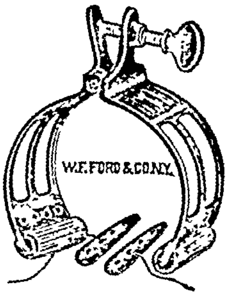

Fig. 1.—Bridge and intranasal splint for correcting depressed deformities of the nose.

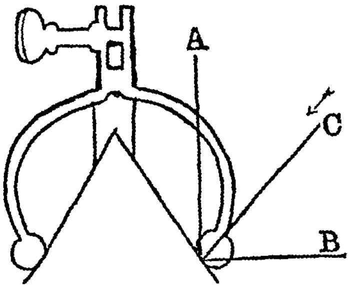

Fig. 4.—Illustrating the mechanics of the intranasal splint and bridge.

The mechanics of the instrument may be illustrated diagrammatically: The line (Fig. 4, A) vertical to the base of the nasal triangle represents the downward pressure of the bridge, produced by the tension of the sutures on the dorsum. The horizontal line (Fig. 4, B) represents the pressure exerted horizontally by the wings and controlled by the thumb-screw. The mean direction of pressure (Fig. 4, C), therefore, that is actually applied to the base of the nasal triangle bisects the angle formed by the vertical and horizontal lines, and gives the proper support at the base, while the lifting force is applied to the apex through the sutures attached to the intranasal splints. The combined action of these forces, therefore, would tend to construct a symmetrical nose.

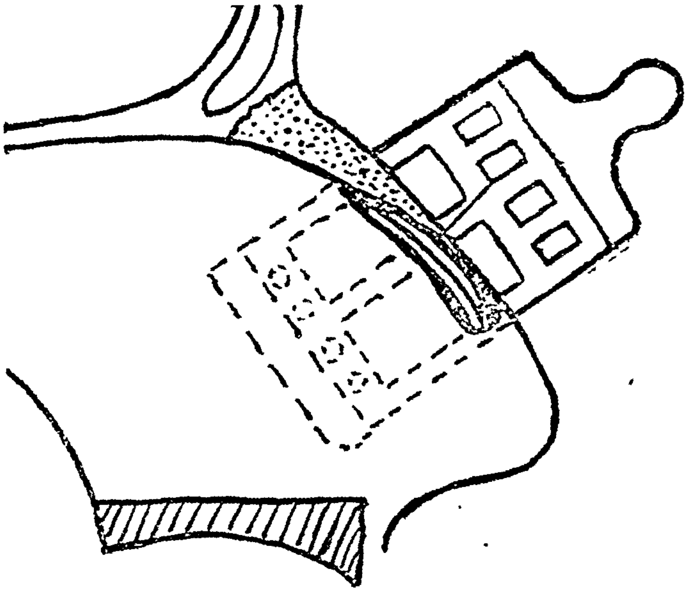

Fig. 2.—Sectional view of splint and bridge in place.

LENGTHENING THE SEPTUM.

When the nose is very broad and flat, as it was in my second case, it is necessary to lengthen the septum before the dorsum can be raised; this was done in the following manner: Through a button-hole slit I elevated the mucous membrane on the left side of the septum. With a sharp-pointed bistoury, beginning at the anterior edge of the vertical plate of the ethmoid (Fig. 5, B), I divide the cartilage and the mucous membrane of the other side at a high level and the mucous membrane of the left side at a much lower level (Fig. 5, A), leaving a long flap of mucous membrane attached to the upper segment of the septum, which is intended to fall into the interval between the segments of the septum and prevent a perforation when the dorsum is raised.

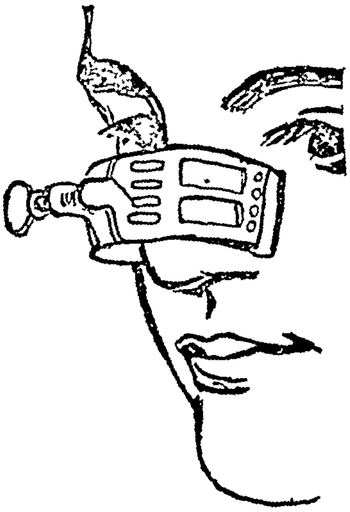

Fig. 3.—General view of the bridge after its application to the nose.

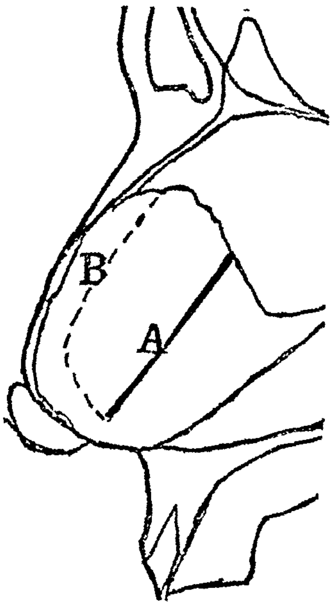

Fig. 5.—Lengthening the septum preparatory to raising the dorsum in broad and flat noses. A and B outline the area of mucous membrane and cartilage elevated to form a flap.

The forepart of the septum is lengthened in the following manner: Downward from the center of the septum (Fig. 6), an inverted Y-shaped incision is made, separating the columnar cartilages, and continued under the floor of either nostril, making two flaps which are brought together in the median line and sutured with fine silk, thus doubling the length of the septum and raising the tip of the nose. The incisions in the floor are then extended under the alæ, liberating them so that they can be brought toward the median line

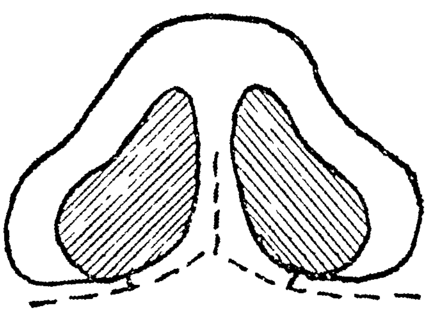

Fig. 6.—The inverted Y-shaped incision for lengthening the fore part of the septum.

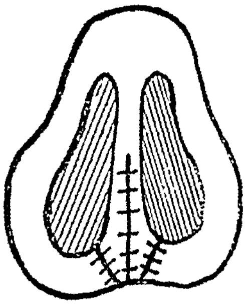

Fig. 7.—The septum lengthened and the tip of the nose raised, making a shapely nasal orifice.

and sutured, thus narrowing the nostril and producing a shapely nasal orifice (Fig. 7). In such cases as this, as suggested by Berens, strips of bone chiseled from the nasal processes of the superior maxillæ are used in building up the arch.

The instrument was developed after thorough experimentation adhering strictly to mechanical principles, and seems to me to meet all the requirements for a reliable, self-retaining splint in the conditions indicated. It has the great advantage of restoring the function of the nose as well as its contour by a rearrangement of its parts without the introduction of foreign substances into its tissues. Its efficiency depends on the principle that the best way to correct a deformity is to reverse the direction of the forces that produce it.[1]

69 West Fiftieth Street.

ABSTRACT OF DISCUSSION.

DR. E. FLETCHER INGALS, Chicago: I have had no opportunity to use Dr. Carter's splints, but it seems to me the direction in which he applies the force, together with the internal splints, should hold the bones accurately in place.

DR. W. W. CARTER, New York: This instrument is a very powerful one and with it one can pull a flat nose up into a normal position with perfect ease, but the tissues must be thoroughly mobilized and their resistance overcome so that the tension on the sutures is only sufficient to hold the nose in position without undue pressure of the intranasal splints on the mucous membrane. Where there is a very flat nose it is necessary to narrow it, and if there is not a sufficient amount of tissue to produce a normal nasal arch it is necessary to chisel off a part of the nasal process of the superior maxillary bone and use it in building up the arch. The chief advantages in the instrument are that it helps to preserve the function of the nose as well as its contour, and that the patient is not seriously discommoded while wearing it.

SUCCESSFUL CANINE INFECTION WITH CULTURES OF LEISHMANIA INFANTUM (C. NICOLLE).*

F. G. NOVY, M.D.
ANN ARBOR, MICH.

PRELIMINARY NOTE.

In May, 1903, Major Leishman described peculiar chromatin bodies which he found in the spleen of a patient suffering from the so-called dum-dum fever of Calcutta, and at the time he suggested the possibility of these having a trypanosomal origin. This observation was soon confirmed by Donovan and others, and consequently the so-called Leishman-Donovan bodies have come to be recognized as the cause of Kala-azar or tropical splenomegaly.

In December of the same year J. H. Wright gave an accurate description of similar bodies found in the lesions of Delhi boil or Oriental sore, and like results were obtained about the same time by Marzinowsky. While, morphologically, the Wright bodies are identical with those of Leishman, there is good reason to believe that they represent distinct though related organisms.

A third infection of similar type was recognized by Pianese, in Naples, in 1905. In five out of twelve cases of infantile splenic anemia he found intracellular bodies which resembled those of Leishman. The recent study of this disease of infants by C. Nicolle, director of the Pasteur Institute of Tunis, are of commanding interest in view of the results achieved.

The organisms referred to may be placed, for the present at least, in the genus *Leishmania* created by Ross. They are known, therefore, as:

Leishmania donovani (Laveran and Mesnil) in Kala azar.

Leishmania tropica (Wright) in Oriental sore.

Leishmania infantum (C. Nicolle) in infantile splenic anemia.

From the beginning of the studies thus briefly referred to, much interest attached to the question of the nature and the systematic position of the Leishman-Donovan bodies. The hypothesis of a trypanosomal origin was strengthened by the discovery of Rogers, in 1904, that the Leishman bodies developed into flagellated organisms when the fluid obtained by splenic puncture was placed in a solution of sodium citrate. The actively motile forms thus obtained were strikingly suggestive of cultural forms of trypanosomes, more especially of the flagellates found in insects, and hence Rogers proposed to designate the organism as an *Herpetomonas*. The observations of Rogers were soon confirmed by others, and the important fact was thus established that the Leishman bodies, usually intracellular, possessed a free, flagellate or trypanosome-like stage. Unfortunately, attempts to grow the organism on blood agar failed and, as it was seemingly impossible to obtain more than one or two subcultures of the flagellated form, the further study of Kala-azar along these lines was blocked for the time being. In view of the results recently obtained by Nicolle with *L. infantum* and *L. tropica*, it is clear that the study of *L. donovani* must be taken up anew.

In the case of infantile splenic anemia Nicolle has shown (February, 1908) that this disease can be reproduced in the dog and monkey by inoculation with the infected tissue and that the human disease is probably of canine origin. Moreover, he was able to cultivate the parasite on blood agar, not only from the human disease but also from the experimental animals and from the naturally infected dogs. Attempts at reproducing the disease by inoculating dogs and monkeys with pure cultures of *L. infantum*, however, failed and he concluded that such cultures, unlike the virus, seemed to be deprived of pathogenic power.

Because of the important questions involved it was very desirable to prove the relation of the flagellated forms to the disease by inducing an infection characterized by the presence of typical Leishman bodies. Accordingly, having received, through the courtesy of Dr. Mesnil of the Pasteur Institute, March 23, cultures of Nicolle's flagellates (eighth generation), it was decided to repeat Nicolle's experiments on dogs. Since the failure in his tests was probably due to the use of small doses of the culture material, it seemed best to resort to repeated inoculations of large quantities of the flagellates.

In the interval from April 13 to September 21 a dog was given fifteen injections, intraperitoneally, of fresh vigorous cultures of the flagellates. The organism was grown on blood agar at 20 degrees C., and for each inoculation the growth from a large number of tubes (8 to 40) was taken up in citrate solution and then injected. All told 270 cultures were thus utilized. The dog apparently showed no effect other than an occasional leucocytosis. It remained seemingly healthy and repeated microscopic examination of the peripheral blood gave negative results.

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[1] Since writing the above, my attention has been called to a mask devised by Dr. O. B. Douglas. His apparatus differs from mine mechanically, and does not support the base of the nasal triangle, an important feature of my instrument.

* From the Hygienic Laboratory, University of Michigan. This investigation has been aided by a grant from the Rockefeller Institute for Medical Research.

On October 9 the dog (weight 11.7 kilos) was killed by bleeding and an autopsy was at once made. Contrary to what might be expected, the spleen was small, tough and leathery and weighed but thirty-three grams. The liver and kidney were likewise unusually hard. Smear preparations made from the spleen, liver, kidneys, lungs, mesenteric glands and red marrow showed enormous numbers of typical Leishman-Donovan bodies. These were at times present in mononuclear leucocytes, from five to one hundred or more being present in a cell, but most of the parasites, however, appeared to be free. There was no evidence of the presence of flagellated forms. A comparison of the Leishman bodies found in this dog with those seen in original preparations kindly sent me by Dr. Nicolle showed them to be identical with those found in the human body. Blood agar tubes inoculated with material from the spleen, liver and bone marrow gave in five days enormously rich cultures of the typical flagellate form.

This experiment, therefore, establishes the susceptibility of the dog to infection with cultures of *L. infantum*. Starting out with the flagellate form, it has been possible to reproduce the characteristic Leishman-Donovan bodies, free as well as intracellular, and, moreover, the recovery of the typical flagellates by cultural means, from the organs of the infected dog, completes the evidence regarding its relation to the disease. It is interesting to note that the successful infection of dogs by means of pure cultures furthers the prosecution of the study of this disease in laboratories remote from regions where the disease prevails. It is probable that like results will be obtained in the case of Kala-azar and Oriental sore. Further studies on the infectivity of experimental animals are now under way.

ACUTE DILATATION OF THE STOMACH.

REPORT OF AN UNUSUAL CASE.

W. R. HOUSTON, A.M., M.D.
PITTSBURG, PA.

Patient.—Mrs. T., a moderately well-nourished woman, aged 47, was seen at 2 a. m., Aug. 16, 1908, at the City Hospital in Augusta, Ga. She had been brought in from a Sunday excursion train returning from Savannah, after an exhausting day's outing that involved ten hours on the train and seven hours on the seashore. She had been feeling well up to 9 p. m., when she was taken with abdominal pain after having eaten several bananas. On the train she had already had three-fourths of a grain of morphin, by mouth, and two drinks of whisky. There was a history of previous attacks which had been relieved by these medicines.

Examination.—I found the patient with a pulse of 110, full and regular, temperature normal, extremities cold, and complaining bitterly of pain in the abdomen. The pain was not localized but referred more to the upper quadrants, and was lessened by pressure. The patient showed a remarkable abdominal distention. The distention was at first more marked on the right side, but in course of time became everywhere the same. Palpation showed a highly developed drum-like hardness of the abdominal walls, and a uniform dull tympany was observed. The heart and liver were considerably displaced upward.

Treatment.—Though the history was that of an obstipation of some days' standing, repeated asafetida enemas gave no relief and the water returned clear and with little flatus. Four attempts were made to wash out the stomach. The tube, which unfortunately was of too small caliber (25 Fr.) was introduced apparently into the stomach, but the water came back almost immediately bringing only a little bloody mucus. This was thought to be due to the great pressure of gas in the intestines. Several attempts to administer water by mouth, four ounces at a time, resulted in the regurgitation of the clear water after ten or fifteen minutes. At 4 a. m. the patient's pulse began to grow rapidly quicker and weaker. The breathing became gradually shallower.

Consultation.—Dr. W. H. Doughty was called in as a consulting surgeon. An exploratory laparotomy was decided on, looking to the probable necessity for an enterostomy. Before anything could be done, however, the patient died at 7 a. m.

Postmortem Examination of Abdomen.—An autopsy was declined, but as the undertaker thought it necessary to let out the gases before giving up the body for transportation, an opportunity was offered for a casual examination of the abdominal contents. The abdominal distention was found to be due solely to the distention of the stomach. The stomach extended to within an inch of the symphysis, and pressed against the lateral walls of the abdomen on both sides from top to bottom. The antrum was pouched out under the liver on the right so that it extended four inches to the right of the first part of the duodenum. The intestines seemed normal and contained the usual amount of gas. They were quite hidden by the stomach. When the wall of the stomach was punctured there was a loud explosion of gas. The greater curvature retracted to a position an inch below the navel. The lateral distention was little affected. There seemed to be no gastroptosis, but the conditions suggested a chronic dilatation preceding the acute. The duodenum and pylorus showed no thickening nor infiltration. There was a half-pint of dark acid contents in the stomach.

As to the physics of the conditions here discovered, I refer to the experimental studies of Braun and Seidel.[1] The esophagus enters the cardia obliquely. The closure of the cardiac orifice is maintained chiefly through lateral pressure exerted by the musculature of the fundus. When the fundus is inflated the pressure is increased. In the case recited the closure had become so great as to block the passage of a rather too flexible stomach-tube and cause it, evidently, to double on itself. The antecedent chronic dilatation had prepared the way for a kinking of the first part of the doudenum, and, as the antrum was forced further to the right by the increasing distention, the pylorus became more and more tightly closed. The first impulse to the acute attack may have been given by an exaggeration of chronic motor insufficiency induced by the fatigues of the day.

But for the unfortunate misinterpretation of the symptoms, the patient might doubtless have been rescued. Death resulted apparently from shock.

Leonard Building.

MOTILITY OF THE SPERMATOZOA IN THE EPIDIDYMIS.

JOHN A. HAWKINS, M.D.
PITTSBURG, PA.

It has been taught that the spermatozoa do not acquire motility until after leaving the epididymes. This idea I have recently demonstrated to be erroneous. A young man had suffered from a double epididymitis years before the operation to be described. Recent repeated examinations of the semen had shown constant absence of spermatozoa, although the amount of semen and macroscopic appearance were normal. An anastomosis of the vas with the globus major of one side was suggested, and at the time of the operation I withdrew a few drops of fluid from the neighborhood of the proposed site of incision into the epididymis. This fluid I immediately put on a slide, covered it, and made the examination, the procedure occurring at room temperature. The spermatozoa were found active and, in fact, appeared in no wise different from spermatozoa obtained after ejaculation, and I believe that impregnation could be secured by their transference to the uterus of a healthy ovulating woman. The hypodermic puncture was made to select a suitable site for the attachment of the vas.

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[1] Klin. experimentelle Untersuchungen zur Frage der acuten Magenerweiterung, Grenzgeb. d. Med. u. Chir., xvii, 533.

CARIES OF THE HYOID BONE.

JOHN EGERTON CANNADAY, M.D.
CHARLESTON, W. VA.

Most authorities state that the hyoid bone at times may be fractured by hanging or other forms of strangling. A case of primary acute periostitis, followed by abscess, incision and recovery, has been reported by Stetter. Ullman reports a case of caries of the hyoid with subsequent fistula in a man 40 years of age. The fistula remained after incision of a small abscess on the right side of the neck four years previously. In this case the necrotic portion of the bone was resected.

Fracture of this bone is peculiarly dangerous, and, in many instances, death has followed the complications. The ecchymosis may cause great difficulty in swallowing, talking or breathing. From its protected position the bone is seldom affected by external violence.

Inflammation of the bone may be the result of external violence or constitutional disease and usually begins as a periostitis with localized pain, swelling, dysphagia and dyspnea; suppuration and necrosis of the bone are apt to follow. These processes are usually limited, though the whole bone has been known to die and be cast off. After extrusion of the sequestrum the functions of the bone appear to be but little impaired.

Tumors of this bone are most unusual, and but five or six have been found in the literature, benignancy and malignancy seem to be about equal and death has followed removal in at least one case. Death occurred in another case from pressure before any operation could be undertaken. Secondary growths in the hyoid are of great rarity. The primary tumors reported are enchondroma, osteoma and sarcoma.

Syphilis of this bone usually shows itself in the form of painful periosteal nodes which may cause interference with swallowing. After surgical or accidental interference with this bone tracheotomy may be necessary to prevent asphyxia and the stomach tube may have to be used in feeding the patient, as there may be inability to swallow on account of the swelling.

Patient.—L. F., a healthy young woman of excellent habits, aged 28, somewhat corpulent, was referred to me by Dr. T. L. Barber, Charleston, W. Va.

Examination.—A sinus of the neck opened just above the thyroid cartilage and led inward and backward to the hyoid bone, which was distinctly carious. This sinus had resisted treatment since the patient was four years of age. No history of accidental injury could be elicited.

Operation.—A general anesthetic (chloroform) was administered and an elliptical incision was made around the skin orifice of the sinus; this cut was prolonged at the ends to gain room and the sinus was dissected down to the body of the hyoid without opening. The posterior periosteum of the body of the bone, together with its muscular attachments, was stripped away and the bone removed. A small portion of each cornu was left behind. Hemostasis was secured. A small rubber tube drain was carried down to the bottom of the wound and brought out through a stab opening below the line of incision. The subcutaneous structures were brought together by a buried suture of plain catgut and the edges of the skin incision were approximated by a subcuticular linen suture. The neck was encased in a so-called mummy dressing. Healing was by primary intention. Beyond a little soreness for a few days there has been not the slightest interference with any of the muscular functions dependent on the hyoid for attachment.

Pathologic Report.—This was made by Dr. G. B. Capito. Tuberculosis was suspected but no giant cells or other evidences of tuberculous infiltration were present. The bone was decidedly carious. The sinus walls only showed the characteristic appearances of chronic inflammation. The area of infiltration was small and practically limited to the immediate vicinity.

Therapeutics

ANGINA PECTORIS.

A great deal is written and a great many recommendations are made concerning the treatment of this acute and dangerous condition, but in the true disease there can be but little diversity of opinion as to the best means to allay the pain and relieve the heart.

The patient should be left in the position that he finds the most comfortable, or in which he can breathe the best. If he is in bed, a hot water bag held in the region of the heart, not having the weight on the heart, often gives some relief. The best immediate treatment is a whiff or two of a few drops of nitrite of amyl, or the patient may dissolve on the tongue a nitroglycerin tablet containing 1/100 of a grain. Either of these may be acting while the physician prepares a hypodermatic injection of morphin and nitroglycerin, omitting the latter if he has decided that enough vasodilator action has occurred from either the nitrite of amyl or the nitroglycerin on the tongue. Except in instances of profound depression, or when there are diseased kidneys or other contraindications to morphin, there is nothing in this condition that will give better results than its hypodermatic administration. The dose should be from ⅛ to ¼ of a grain, depending on the size of the individual and the intensity of the paroxysms of pain. If ⅛ of a grain is given, it could, of course, be repeated in an hour. The nitroglycerin, if it seems best thus to administer it, may be added to the same hypodermic syringe in doses of 1/100 of a grain.

If the attacks of pain recur, a certain amount of vasodilatation should be continued with nitroglycerin by the mouth at three, four or five hour intervals, as seems best, but soon three or four times in twenty-four hours will be a sufficient amount. While the actual dilating effect of nitroglycerin is short, the good effects from its action certainly last a number of hours. If severe pains recur, it may be necessary to repeat the morphin.

As soon as the patient has sufficiently recovered from the acute attack, the bowels should be evacuated as deemed best, either by an enema, glycerin suppository, or, if the patient's condition is good, by a calomel or castor oil purgative. Effervescing or saline laxatives that require a large amount of water for solution should generally be avoided in acute angina pectoris.

During the next few days the nutrition should be taken in small amounts, at three or four hour intervals, not too hot and not too cold. Even liquids should be taken in small amounts, not in large bulk at a time.

The subsequent treatment of angina pectoris is that of its cause, and as there is generally an arteriosclerosis or cardiovascular-renal disease, the treatment of that condition may be referred to in The Journal, Feb. 8, 1908, page 465.

BODY WEIGHT.

The importance of over or underweight in an otherwise healthy adult is perhaps not sufficiently recognized by the profession. While tables of the average weight to a given height give sufficient range for individuality, they also show distinctly when an individual is overweight and when he is underweight. Between the ages of 15 and 25 the physician should rarely be satisfied to allow a member of a family in which he is professionally interested to remain underweight without careful investigation into its cause. It has been repeatedly shown that from the age of 15 to the age of 30, the age of greatest tendency to the development of tuberculosis, is also the age at which there is the greatest danger from underweight. In other words, the insurance statistics show that an underweight individual between these ages has a shorter expectancy of life than those of normal average weight. If each physician would individualize every such patient that he sees in the families of his clientele he may ascertain some hygienic, occupation, or actual organic reason for such underweight, and if the cause is treated or prevented at a time when serious conditions are not present, not only will the patient's life be prolonged, but tuberculosis may be prevented. If a patient of underweight has lived to the age of 35, there seems to be less danger from his underweight causing a predisposition to disease. The age is then soon reached, after 40, of the danger from overweight, and from the age of 35 upward the expectancy of life diminishes the greater the amount of obesity.

The danger from overweight seems to be due to the progressively greater necessity for a sedentary life, or, if exercise is actually taken, to the increased strain on the heart when the body performs the necessary physical exertion of ordinary exercise. It is self-evident that a heart must work much harder to take a man up-stairs when he is from twenty-five to fifty pounds or more over the average weight than if he was normal weight. If even this simple exertion is repeated for several years, it may be well understood why his life expectancy is shortened. Also, when an obese patient is attacked with pneumonia or must undergo some abdominal operation, even if his heart is not actually fatty, he again has his expectancy of recovery from these conditions greatly diminished. It therefore again becomes the physician's duty to arrange a diet or life for the individual when he is beginning to put on this surplus weight rather than to wait until the patient is driven to the physician by actual disability from such weight. Hence, in the treatment of underweight and overweight the physician should exercise the highest aim of the profession, viz., prevention of future disability.

Dr. Brandreth Symonds, in the *Medical Record*, Sept. 5, 1908, presents an interesting discussion of the expectancy of life of underweight and overweight adults and of the mortality figures of underweight and overweight individuals who have been accepted for insurance. According to the record of the Mutual Life Insurance Company, of New York, no overweight policyholder, either man or woman, died of old age or senility, while a few underweight individuals did die senile. The statistics of this company also show that the mortality (those deaths which occur below the expectancy of life) is greater in those above average weight than in those below average weight. Symonds also shows that up to the age of 25 some overweight is rather an asset to the individual, and underweight is a handicap, while over 30 years of age the reverse becomes true, overweight is a handicap and underweight becomes progressively with age an asset. The article was fully abstracted in The Journal, Sept. 19, 1908, page 1032.

SCARLET FEVER.

The advantages of hot, or at least warm, water bathing in scarlet fever is well set forth by Dr. H. W. Rover, of Denver, in *Colorado Medicine*, July, 1908. He premises the discussion of the hot water treatment of this disease by the statement that "what the cold bath is to typhoid fever, the hot bath is to scarlet fever." The advantages of hot baths in this disease are that they hasten the completion of the eruption; quiet restlessness and prevent cerebral excitation; dilate the peripheral blood vessels and increase heat radiation and diaphoresis, which is often absent in this disease; tend to prevent itching; relieve the congestion of the kidneys due to dry skin; make desquamation more rapid; and tend to remove, daily, the dry epidermis that, if not prevented by oily applications, will fly about and supposedly spread the contagion.

With a warm room and a bathroom handy there is no question that hot or warm water bathing in scarlet fever is an advance in the treatment of that disease. If a hot bath is not available, hot water sponging should be done daily. If, during the desquamative stage, much itching or irritation is present, or the skin is dry, rubbing in clean olive oil or some clean, diluted wool fat preparation is advisable.

While the patient may be sponged finally before he leaves the sickroom with some mild antiseptic solution, there should be no daily application of germicide, lest absorption and poisoning take place.

While there is some doubt whether the epidermal scales of scarlatina are the cause of the spread of the disease, until there is proof that such is not a means of propagation the patient should be isolated until scaling is complete, and, as Rover has emphasized, hot baths and inunctions of oil will hasten the completion of the desquamation.

TUBERCULOUS PERITONITIS.

Dr. Arthur K. Stone, Boston, in the *Boston Medical and Surgical Journal*, May 7, 1908, gives his results after careful study of this disease. He finds that males and females suffer about equally from it; that the onset of the disease is often sudden, both with and without ascitic fluid being present; that the fluid may be quickly absorbed and improvement take place rapidly either with or without an operation; that tuberculous peritonitis may be latent and unsuspected and the condition may remain unchanged for months after active symptoms have subsided and the patient is in apparent health; that operations should only be undertaken when there is some distinct indication; that unless there is distress from distention, due to ascitic fluid, it is better to wait before operating and give the patient the advantages of rest and of the same hygiene as is carried out in pulmonary tuberculosis; that operation is indicated if after six or eight weeks of such fresh air and rest no improvement has taken place; that when improvement has occurred, whether from operation or from the rest and fresh air, patients must be taught to regulate their lives with the same hygienic care as is advised after arrested pulmonary tuberculosis.

YEAST.

The value of brewers' yeast in infections is too little known, and, if its value is known, it is too infrequently resorted to. In bowel infections of all kinds, in liver insufficiency, in cholecystitis, in duodenitis, and especially when constipation is present, it is valuable. The bowels move more readily with it and with less disturbance than from almost any other laxative or cathartic. A heavily coated tongue quickly becomes cleaner and often perfectly clean, tympanites is diminished, and the temperature is often lowered with this improvement of the gastrointestinal condition. In localized inflammatory processes, such as frequently occur in the pelvis, it is often a factor in preventing the formation of pus and consequent abscess. It increases leucocytosis, and perhaps raises the opsonic index in fighting an infection. As a cleanser of ulcers and local suppurations it is very valuable, and it is used with great success in vaginal inflammations, specific and otherwise, and in cervical endometritis.

For internal treatment, the upper layer of brewers' yeast should be obtained, and if placed in the ice box will keep for several days. The dose is from a teaspoonful to a tablespoonful, three or four times in twenty-four hours, administered in a glass of water. Few patients object to it, as it makes a not unpleasant sour drink. If a patient does not object to it, and it does not cause gastric disturbance, which it rarely does, the frequency and size of the dose is regulated by the effect on the bowels, the more the action on the bowels, the smaller the dose.

As a vaginal injection it may be used diluted with three or four parts of warm water.

Simple fresh brewers' yeast is more valuable as a nuclein treatment than any other nuclein offered or prepared.

IMPETIGO CONTAGIOSA.

Dr. R. T. Sutton, Kansas City, Mo., in the *New York Medical Journal*, Aug. 1, 1908, briefly discusses the diagnosis and treatment of this troublesome skin disease. While ammoniated mercury is recommended as one of the most effective treatments of this trouble, Sutton thinks the mistake is made of using too strong preparations. The official ointment, unguentum hydrargyri ammoniati, contains 10 parts of white precipitate in 90 parts of benzoinated lard, and this he thinks is too strong for most effective use. He finds an oily preparation better than a fatty preparation, viz.:

℞.	gm. or c.c.		
Hydrargyri ammoniati	1		fl℥iii
Olei olivæ	100	or	gr. xiv

M. et Sig.: Shake well and apply freely several times a day.

If deemed advisable, compresses may be soaked in this solution and kept in place over the affected areas by means of bandages or adhesive plaster. In the hairy parts of the body, as in the beard, a continuous application for twenty-four hours of the above solution will loosen all crusts and allow the antiseptic to reach the germs of infection and will inhibit the spreading of the disease. Sutton finds such treatment renders a cure possible in a week, whereby with other treatments from two to four weeks are needed.

While treating the disease locally he would also improve the patient's general condition, if that was below par, as it is doubtless true that anything that reduces the patient's ability to fight this infection will make the cure of the local disease more difficult.

New and Nonofficial Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NONOFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on an advertising page of THE JOURNAL *in the first issue of each month.)*

(Continued from Vol. LI, page 1337.)

HEMABOLOIDS.—Hemaboloids is a liquid said to contain in each 100 Cc. iron, combined with proteins, equivalant to 0.40 Gm. elementary iron, proteins and nucleiproteins (nitrogen x 6.25) 4.0 Gm., bone marrow extract 5.0 Gm., nuclein 0.04 Gm., in a menstruum containing 17 per cent. alcohol by volume. It is claimed that 75 per cent. of the iron is in a stable organic combination with vegetable nucleoproteins and does not react with hematoxylin (see Organic Iron), while the remaining 25 per cent. is more loosely combined.

Actions and Uses.—Hemaboloids is said to act as a promptly absorbable and non-irritant form of food-iron. It is said not to constipate nor stain the teeth.

Dosage.—15 Cc. (½ fluidounce) after each meal. Children in proportion. Each average dose of 15 Cc. (½ fluidounce) contains iron 0.06 Gm (0.92 grains), proteins and nucleoproteins 0.62 m. (9.6 grains), bone marrow extract 0.775 Gm. (12 grains), nuclein 0.006 Gm. (0.1 grain).

Manufactured by the Palisade Manufacturing Company, Yonkers, N. Y. U. S. trademark, Aug. 3, 1897.

IODALBIN.—Iodalbin is a compound of iodine and blood albumin, containing approximately 21.5 per cent. of iodine.

It is prepared by treating blood albumin with a solution of iodin whereby an insoluble precipitate is produced. This precipitate is separated, purified by the removal of free iodin, dried, powdered and assayed.

Iodalbin is a reddish colored powder, practically tasteless and possessing a peculiar, rather pleasant odor, suggestive of cane syrup or molasses. It is almost insoluble in water, acids, alcohol and other ordinary solvents, but is readily soluble in strong alkaline solutions; more slowly soluble in dilute alkaline solutions. On heating it evolves iodine vapors copiously and is subsequently consumed to an ash, leaving a small amount of residue.

Tests. The presence and amount of iodine can be determined by the usual processes for detecting and estimating this element in organic substances.

Actions and Uses.—When administered to animals Iodalbin appears to suffer little change in the acid contents of the stomach, but on passing into the intestines it is dissolved by contact with the alkaline secretion and on absorption exerts a physiologic action similar to that of the soluble iodides. It is indicated in the same cases as the soluble iodides.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) repeated according to indications, or until the desired effects is obtained. Iodalbin is supplied in powder and in 0.3 Gm. (5 grain) capsules.

Manufactured by Parke, Davis & Co., Detroit, Mich. Not patented or trademarked.

LECIBRIN.—Lecibrin is lecithin from the brain in combination with nucleoproteins, containing 33⅓ per cent. by weight of lecithin.

Lecibrin is put up in gelatin coated "pepules" each containing 0.2 Gm. (3 grains), the equivalent of 0.0027 Gm. (1/25 grain) of elementary phosphorus.

Actions and Uses.—See Lecithin. Said to be better borne than lecithin in some cases.

Dosage.—One to three pepules.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 50, 967.

(To be continued.)

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SATURDAY, OCTOBER 24, 1908.

NON-ACID-FAST TUBERCLE BACILLI.

In a previous number of The Journal[1] attention was directed to the existence of forms of tubercle bacilli which are decolorized by acids after staining with carbolfuchsin. They were discovered some years ago by Much, who in a recent paper[2] calls attention to some further interesting facts in this connection. According to this observer, it is not rare to find numerous tuberculous nodules in the lungs of cattle in which microscopic examination fails to reveal the presence of acid-fast bacilli, but on inoculation into guinea-pigs of a small piece of this lung tissue the animal dies of typical tuberculosis. Furthermore, from the lesions in the guinea-pig characteristic cultures of tubercle bacilli may be obtained.

These facts are essentially true also of lesions in human beings. In cold abscesses, for example, it is often impossible by the most careful search to find tubercle bacilli by staining the contents with the Ziehl stain, whereas characteristic cultures are obtained by the inoculation method. By means of Gram's stain the bacilli which are not acid-fast in the tissues may be studied, and Much distinguishes two forms, one a rod-like and the other a granular form; there are also intermediary forms between these. In order to bring out these bacilli in tissues, Gram's stain is used and the best results are obtained if the anilin oil gentian violet is allowed to act for from twenty-four to forty-eight hours. For example, in the tuberculous tissues from a calf inoculated with virulent typical bacilli no evidence of tubercle bacilli appeared when stained by the ordinary Ziehl method. After staining with Gram for forty-eight hours, however, an interesting picture presents itself. Filling the tubercles are fine bacilli, many of which are inside the cells and others are arranged in masses or singly. These bacilli, moreover, when isolated again by the culture method are acid-fast.

The practical application of this work is evident. Too much reliance should not be placed on the Ziehl stain and much more should be made of Gram's stain, especially in the staining of tissues for tubercle bacilli. Apparently the bacilli as they occur in the tissues possess more or less characteristic arrangement and are not apt to be mistaken for other bacteria. In sputum, however, where so often there are many other bacteria, both Gram-positive and Gram-negative, the presence of the non-acid-fast tubercle bacillus will be much more difficult to detect, and consequently the use of this method in sputum examination necessarily will be limited. Much more work is needed to determine how prevalent the non-acid-fast bacilli are in sputum, exudates and various tuberculous lesions.

Much was able experimentally to change either form into the other and in either condition the virulence is the same. It is an interesting fact that on the whole the more virulent the strains of tubercle bacillus the more easily it is decolorized by the acid. Inasmuch as the acid-fast property depends on the presence of certain fatty acids in the bacillus, it appears that the greater the virulence the less fatty acid the bacilli contain. It is possible that the virulence bears some relation to the amount of this acid-fast substance in the capsule.

RABIES IN GREAT BRITAIN AND IN AMERICA.

Travelers returning to this country from abroad are prone to talk of the stringent quarantine regulations enforced in Great Britain with regard to dogs. Under no circumstances are dogs admitted to that country until they have been kept under observation for at least six weeks. No excuse will serve, no influence will help, to evade the law, and it matters not whether the dog be a tiny spaniel or a huge St. Bernard or Dane, he can not be taken into England otherwise. The internal regulations with regard to dogs are just as strict. The consequence is that Great Britain, after suffering for many years from outbreaks of rabies, has no longer any cases of the disease.

In his recent Wesley Carpenter lecture at the New York Academy of Medicine, Prof. G. Sims Woodhead said that wishing to obtain for teaching and demonstration purposes specimens of an animal that had died from rabies, he communicated with the health authorities all over the United Kingdom, but found that the entire absence of the disease had rendered such specimens unobtainable. He had to send to America for them and, as we can well imagine, found no difficulty in obtaining them here. He then related the method by which this consummation, so eminently to be desired, had been attained. For six months every dog in Great Britain without exception was required to wear a muzzle. Humanitarians, falsely so called, objected strenuously to this procedure, and there were letters to *the Times* and public denunciations of all kinds of this "cruelty to animals." But they had no effect whatever on the administration of the law. At the same time a strict quarantine with regard to the importation of dogs into England was enacted, and, what is more, was enforced. Since that time, it is said, there has been no rabies in Great Britain, and it looks as though there can never be

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1. March 7, 1908, p. 772.
2. Berlin. klin. Wchnschr., April 6, 1908, p. 691.

any again, so long at least as the authorities continue to enforce the exclusion law.

Here in America we earnestly desire to be rid of rabies. But between those who insist that there is no such disease, and those who hamper all attempts at legislation for the enforcement of laws already in existence that might eradicate it, lest cruelty should thus be inflicted on the poor dog, case after case of the disease is reported.

They have no need in Great Britain for a Pasteur institute and have none, while here we are under the necessity of constantly increasing their number. Effective legislation in this matter, as, indeed, in practically everything relating to public health and preventive medicine, is unfortunately hampered in this country by governmental conditions under which each state makes its own local regulations. In Great Britain a single act of parliament secures uniformity of action, and a single board of officers is responsible for its effective exercise throughout the country. It is situations like this that emphasize the need of a national department of public health.

Lest it should seem that the problem presented by rabies is not of sufficient importance to justify an appeal to national measures, it may be recalled that, while this is not generally realized, rabies in its pathogenicity constitutes a curious exception to most of the infectious diseases. Ordinarily we think of animal diseases as readily communicable to man. As a matter of fact (leaving tuberculosis out of the question), rabies is practically the only infectious disease of animals that can be communicated to more than three species. Altogether there are only three other diseases, anthrax, actinomycosis, and tetanus, that are communicable to two species. Tetanus is apparently being brought under control by degrees; anthrax and actinomycosis have almost ceased to be sources of anxiety. It is worth while now to devote ourselves to the problem of the control of rabies. The example of conditions, past and present, with regard to that disease in Great Britain and the results derived from certain simple measures make clear just how rabies can be eradicated, and, further, they demonstrate that, far from being a difficult problem, as it is sometimes considered to be, the control of the disease is comparatively easy when the proper precautions are enacted into law and are adequately enforced.

FEDERAL AID FOR THE PHARMACOPEIA.

Although the United States Pharmacopeia is almost unknown outside of the medical and pharmaceutical professions, in reality it occupies a place in our civilization not unlike the common law: its influence extends to every man, woman and child in the United States who uses medicine. For not only is it the legal standard to which the drugs of the physicians' prescriptions must conform, but it is the standard by which practically all important drugs are bought and sold. Severe penalties are provided for any person who applies a pharmacopeial name to an article which does not conform to the tests laid down in this work.

The standing of the medical profession is also much more closely connected with the Pharmacopeia than many of its members realize. For were all drugs that are really useful in the treatment of disease included in the U. S. Pharmacopeia or National Formulary the "proprietary-medicine evil"—which has done so much to debauch medical journalism — would be an almost negligible quantity.

So important for the welfare of the people are the pharmacopeias regarded by most countries that these expend large sums in revising and perfecting them. In the United States, however, all this work has been left to private initiative, although the federal and many state governments long ago adopted the work as an official guide for certain purposes. With the passage of the Food and Drugs Act the federal government made the Pharmacopeia the legal standard in all matters relating to the drugs described therein, and the question has frequently been asked if the national government itself should not undertake the preparation of the Pharmacopeia. This suggestion has not been received with favor, and, indeed, such a step would seem most unwise in a representative government like ours. It is, however, the clear duty of the United States Government to contribute something to the vast amount of labor and expense involved in the preparation of a standard which has become an indispensable part of its machinery for securing pure drugs for its citizens. Hence it is with much pleasure that we learn that the Public Health and Marine-Hospital Service has taken steps to cooperate with the board of trustees of the United States Pharmacopeia.

For the present, as we understand it, this cooperation will consist in the preparation and publication of a series of digests of comments on the eighth revision of the Pharmacopeia. It has been customary in the past for the Committee of Revision of the Pharmacopeia to collect and publish such comments, and these "Digests of Criticisms" proved very useful to all who had occasion to use the Pharmacopeia and were of material assistance to the Committee of Revision. So far no such digest of the comments on the eighth revision has been published, although this edition has been the subject of more active discussion than any previous one; this interest has resulted partly from the fact that under the Food and Drugs Act the Pharmacopeia assumed a much greater importance as a legal standard than formerly, and partly from the recent tendency of physicians to turn from the host of proprietary medicines to the official preparations.

It is especially appropriate that work of this character should be undertaken by the Public Health and

Marine-Hospital Service, which has already a large corps of physicians and pharmacists and a splendid, though small, hygienic laboratory. It is to be hoped that those in charge of the work, not being concerned with the police regulations concerning the adulteration of drugs, will treat the subject from a broad and strictly scientific and impartial point of view.

We trust that the Surgeon-General of the Public Health and Marine-Hospital Service will not rest content with this *first step* toward assisting the United States Pharmacopeia, but will also make provision for extensive laboratory work. There is an almost unlimited field for work of the highest scientific as well as of practical value in this direction—work not provided for in any other branch of the government and which can be carried on without in any way encroaching on the functions of the Committee of Revision of the Pharmacopeia. It is also hoped that the same service will find a way of cooperating with the American Pharmaceutical Association in the revision of the National Formulary (as was requested by the Association at its recent meeting at Hot Springs), for this, too, is recognized as a legal standard by the Federal Government.

Work along these lines can be greatly extended without interfering in the least with the plans now being so actively discussed for uniting the various federal bureaus having to do with health matters into a more efficient health organization. In fact, the stronger the individual units which are to go into such a larger organization, the stronger will the latter be. Hence this step, as well as all other measures which tend to strengthen any of the public health agencies already existing, will secure the cordial support of all who are interested in the development of public health work by the National Government.

SYPHILIS IN UGANDA.

One of the dangers to which the savage recipients of the benefits of civilization are subject is that of being left unprotected against themselves and the evils of civilization. The introduction of civilization among an aboriginal race is usually an iconoclastic procedure. In the nature of things, the old native gods and customs are broken before the "reclaimed" savage is able to comprehend the newer order. It is impossible to take a race, not even one generation removed from savagery, and by introducing *Christianity and civilization* put that race on a parity with those whose struggle toward their present state has consumed centuries of time and immeasurable effort. Yet, unfortunately, that is what is attempted too often by the nation which would shoulder the "white man's burden." Such attempts not only fail to redound to the credit of those who have attempted to civilize by hot-house methods, but they spell ruin and misery to the unfortunate recipients.

A good case in point has recently been brought to notice in a paper by Col. F. J. Lambkin on "Syphilis in the Uganda Protectorate" referred to elsewhere in this issue.[1] In this case the "emancipation" of the native women from their tribal customs and religion has brought about an astounding laxity of morals. Sexual intercourse, under the "civilized" régime, has become promiscuous, and syphilis, probably introduced by the white traders, has spread to an alarming extent. Under the severe penalties for sexual offenses which the native customs prescribed, venereal diseases were comparatively rare. These customs once abolished, the women, who are little better than healthy animals with strong sexual passions, were free from their restraining influence. The result is that the very existence of the race is threatened. The terrifying malignancy which syphilis has exhibited among these people is due probably to two causes: One, suggested by Colonel Lambkin, is the virgin soil into which the infection is introduced; the other is the well-known fact that in the tropics syphilis takes on a virulence almost unknown in the temperate zones.

It is a curious anomaly that while civilization has done much toward solving the problem of saving the native of Uganda from sleeping sickness, it has been, if not the proximate, at least the remote cause of a scourge whose ravages are far worse. The moral of the story is a little mixed.

PELLAGRA.

The epidemic prevalence of pellagra in the southern states brings before the physicians of the United States, and notably those of the south, a number of problems the solution of which will well repay investigation. Despite the extensive use of maize in this country, pellagra has been so rare that till recently it has received little notice from American physicians.[2] It has long been prevalent in European countries, especially in Roumania and Italy, and the literature on the subject is large, the list of titles referring to this disease in the Index-Catalogue of the Surgeon-General's Library occupying eight or nine pages. In a monograph by C. H. Lavinder, of the U. S. Public Health and Marine-Hospital Service, something may be learned of the importance of pellagra in Europe. In Roumania 50,000 individuals are afflicted with this disease, and in Italy about 100,000. Lavinder discusses the peculiarities observed in the American cases. The appearance of the disease in epidemic form indicates that some marked change must have occurred in a part of the maize crop, for such epidemics have not been noticed in former years. The relatively acute form and the high mortality distinguish the American from the European cases. This has led to some doubt as to the diagnosis, but we must expect variations in the symptomatology of such a disease. If present views of the cause are correct the poison must vary in quantity and possibly in virulence according to the number and kind of fungi which produce the poison-

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1. London Letter, this issue.
2. The Journal, Feb. 8, 1908, p. 459; Bellamy (R. H.), Ibid, Aug. 1, 1908, p. 397.

ous products. The causes of this variation in virulence merit careful investigation. In general, the cause of pellagra is recognized to be the use of maize of poor quality. The particular change that brings about the deterioration in quality is supposed to be the result of the growth of certain fungi constituting the smut of corn. These fungi probably vary in different seasons and localities. This difference may account for the sudden appearance of the cases in the United States and for the greater acuteness and virulence. Another important point to be decided is whether the poison is formed during the growth of the corn or develops after the grain is stored or even after it is in the intestinal canal. The extensive use of maize in the northern states suggests the possibility of obscure forms of disease arising from a milder form of intoxication from such low-grade grain. Careful inspection of maize intended for human food would appear to be a proper prophylactic measure.

LESSENED MORBIDITY DUE TO PURIFICATION OF WATER SUPPLIES.

In 1904 Allen Hazen, an eminent American sanitary engineer, in an address entitled "The Purification of Water in America," before the International Engineering Congress at St. Louis, formulated a theorem to the effect that for every death from typhoid avoided by the purification of public water supplies two or three deaths from other causes are also avoided at the same time. The same conclusion had been reached previously by Hiram F. Mills, the engineer member of the Massachusetts State Board of Health, and by Dr. Reinecke, the health officer of Hamburg, Germany, who observed that in several cities the purification of public water supply immediately was followed by a far greater decline in the death rate than could be explained by the decrease in deaths from typhoid alone. This startling deduction at first failed to receive the consideration one would think that it deserved, and it is therefore a source of gratification to note that so able a sanitarian as W. T. Sedgwick, of Boston, and his associate, Scott MacNutt, on critical reinvestigation of the evidence on which Hazen's surprising theorem rests, reach the conclusion that the theorem is not only correct but even conservative. Sedgwick and MacNutt made a careful statistical study of the total death rates of Lowell and Lawrence, Mass., and of the influence on them of the purification of polluted water supplies. On careful comparison of these death rates and those of certain other cities, including Hamburg, Germany, they find that the decline in total mortality is explainable to a much greater extent by a decline in deaths from other causes than by the fall in deaths from typhoid alone. Among the "other causes" of the diminished death rates pulmonary tuberculosis, pneumonia and infant mortality appear to be prominent. To what is this unexpected result of purified water supply due? In their preliminary communication[1] Sedgwick and MacNutt simply suggest that either the germs of other diseases than typhoid are more often water-borne than is supposed, or that polluted water depresses vital resistance so that microbes otherwise perhaps successfully resisted gain fatal hold. Possibly both factors are at work. The result of further studies of this problem will be awaited with much interest, but for the present it seems safe to conclude that the removal of pollution of public water supplies has much greater sanitary and consequently also economic consequences than hitherto has been believed possible.

MINE ACCIDENTS.

The recent statistics published by the U. S. Geological Survey make it clear that the most prolific source of disaster in mines is a clearly preventable one. The general idea is that gas, dust and powder explosions constitute the principal factor in mine disasters, and that such factors are either, in some cases, unforeseeable, or, if due to negligence, it is the neglect of some individual workman. It is impossible for man ever to protect himself absolutely against the culpable negligence of everyone. But the statistics referred to show that 1,122 deaths and 2,141 injuries were due to a preventable cause the responsibility for which must be assigned mainly to the owners, viz., the caving in of mine roofs and coal. These accidents are on a par with those due to unprotected machinery. They are a consequence of the selfish disregard for human life when it comes to the question of a little extra expenditure. It is to be hoped that the investigation of mine accidents by Congress, which has appropriated $150,000 for the purpose, will make it abundantly clear that a disregard for the lives of their employés by the employers in their chase for dollars will be held more than culpable. It must be made criminal.

THE COOPERATION OF THE CHURCH WITH MEDICINE.

There is one aspect, at least, of the relations between the church and medicine which can be endorsed by ministers of the gospel of all denominations and by physicians of any or of no religious belief, each in his respective professional capacity, and that is the plan of *reaching through the pulpit*, on matters of prevention in time of epidemic, many who can not otherwise be reached. This course has been adopted at West Pullman, Chicago, at the suggestion of the health commissioner of Chicago, in consequence of a typhoid epidemic prevailing there. All the ministers were asked to utilize their pulpits for the purpose of making widely known the elementary principles by the application of which the spread of the epidemic can be checked, such as boiling milk and other food to destroy germs, promptly disinfecting discharges, screening food from flies, etc. These are matters that are beyond controversy or diversity of opinion, and are, moreover, of universal application, and in that way entirely dissociated from the personal and individual factor that forms so large an element in the treatment of the sick.

Sensitiveness in Hernia.—Extreme sensitiveness during manipulation of a hernia, either in the tumor or in the surrounding tissues, should always cause the surgeon to suspect that there is some condition present other than the hernia. —DeGarmo, in the *Post-Graduate*, August, 1908.

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[1] Science, Aug. 14, 1908, p. 710.

Medical News

DISTRICT OF COLUMBIA.

Germans Entertain German Delegates.—The German delegates to the International Congress on Tuberculosis were tendered a reception at the new Willard Hotel October 2 by German physicians and residents of Washington.

Health Report.—According to the health and mortality record for the week ended October 10, there were 105 deaths, an increase of 22 over the preceding week. At the close of the week there were 199 cases of typhoid fever and 20 cases of diphtheria under treatment.

Typhoid Fever in Georgetown.—As a result of investigation by the health department it has been determined that the present epidemic of typhoid fever in Georgetown is due to the milk furnished by a 'typhoid carrier" owning a dairy farm near Cabin John Bridge, Md Thirty-two cases developed within eight days, of which 28 had consumed milk supplied by the dairy in question.

School Sanitation.—At a recent meeting of the board of education action was taken toward obtaining better sanitary conditions in the school buildings. The drinking cups are to be replaced by bubble drinking fountains and systems of vacuum cleaning will be installed in all new buildings. School authorities will refuse to accept new buildings until approved by the health officer and the chief of police.

Personal.—Mr. Sidney I. Kornhouser has been appointed instructor in biology and Dr. Irving K Phelps instructor in physiology at George Washington University.——Dr. Henry T. Sawtelle has been appointed chief inspector of health and deputy health officer of the district.——Dr. Camillo Caleja, physician to the King of Spain, who was present in Washington as a delegate to the International Congress on Tuberculosis, fell from a street car September 23 and was seriously injured.

FLORIDA.

Personal.—Dr. Clarence E. Hutchinson, Pensacola, has returned after more than a year abroad.——In the cases of Drs. Hiram J. Hampton, J. R. Avellenal and Eugene V. West, charged with violating the section of the city code of Tampa, which requires report of all infectious diseases to the city health officer, suspension of the sentence was ordered, as the ordinance has not been thoroughly understood.

Sanitary Education of the Public.—The State Board of Health has issued a striking poster, containing information on the part flies play in the conveyance of disease. The border of the poster portrays on one side a consumptive's spittoon, a garbage can, an outhouse, refuse, etc, and on the other a baby's milk bottle, a pitcher of cream, a dining table with the family sitting around it, and finally a typhoid patient, while swarming over the border and passing from left to right are hundreds of flies, presumably carrying the filth. The poster is more to be commended for its startling than for its esthetic qualities It is intended to attract the attention of the public to the importance of fly destruction and prevention, and there is no doubt that it will be effective in this regard.

ILLINOIS.

Prosecution of Magnetic Healer.—Several months ago one E. B. Trenner, a self styled "magnetic healer," started practice at Pontiac, without holding a license. The State Board of Health sent him a warning notice, but Trenner took the ground that his method of treatment did not come within the purview of the statute. Prosecution by the state's attorney of Livingston County was successful *on twenty five counts* alleging that Trenner had practiced medicine and surgery within Livingston County without having been licensed by the State Board of Health. Damages were assessed at $100 on each count. On August 10, the appellate court, second district, affirmed the judgment of the lower court. Among other things, the court said:

> The error that is relied on and most strenuously argued is that the evidence does not support the verdict The proof clearly showed that he had treated parties for nervous prostration, diseases of the throat, kidney trouble, headache, and many other physical ailments; that the defendant rubbed and manipulated from twenty to thirty minutes or longer. The defendant in no way denied the proof of manipulation that was made on behalf of plaintiff The case of the People vs Gordon, 195 Ill, 560, lays down the rule that one who advertises himself as a "magnetic healer" and who gives treatments by rubbing or kneading the body for the purpose of freeing the nerve force, in the nature of "osteopathic" treatment, is not within the exception in favor of those treating the sick by mental or spiritual means, even though he accompanied his treatment by mental suggestion, but is practicing medicine within the meaning of the statute and liable to the penalty.

Chicago.

Personal.—Dr. Arthur H. Geiger sailed for Europe October 8 ——Drs. John P. Pfeiffer and Shipley Wayland are ill with septicemia due to operation wounds.

Contagious Diseases.—During the week ended October 17, 414 cases of contagious diseases were reported to the department, distributed as follows: Diphtheria, 132; typhoid fever, 104, scarlet fever, 102; tuberculosis, 31; pneumonia, 24; measles, 9; chickenpox, 6; whooping cough, 2; smallpox, 10; and other communicable diseases, 3. There was a marked increase in cases of diphtheria, undoubtedly due to undiscovered mild cases in which no doctor had been in attendance, and to too early release from quarantine. A case of smallpox, the first in the city since June, was that of a Pullman car porter, who was taken ill in Oakland, Cal, but was allowed to continue his journey.

Deaths of the Week.—The health department reports that during the week ended October 17, 550 deaths occurred, equivalent to an annual death rate per 1,000 of 13 25. Among the principal death causes were acute intestinal diseases, 77; consumption, 70; violence (including suicide), 49; pneumonia, 48, nephritis, 45; heart diseases, 43; diphtheria, 18; typhoid fever, 10, whooping cough, 3; scarlet fever and influenza, each, 2; and measles, 1. There were 47 more deaths reported for the week than for the previous week, and 42 more than for the corresponding week of 1907. The chief increases in deaths, as compared with the preceding week, were from consumption, 17; pneumonia, 14; diphtheria and typhoid fever each 7, and violence (including suicide), 9.

Typhoid Fever Epidemic.—Typhoid fever is reported to be epidemic in West Pullman. Investigation has shown that the local milk dealer, on whose route more than 50 cases had developed in the past few weeks, was securing his milk supply from dealers in Indiana, and that typhoid fever had existed for some time and still existed among the dairy farmers of Hartsdale. The milk supply from this dairy farm was immediately ordered to be excluded from the Chicago milk supply, and the dealer in West Pullman was ordered to discontinue at once the sale of milk. On further investigation it was found that the local dealer had known for several days that typhoid fever had been present at this dairy farm, and that a large number of cases were developing along his route, and revocation of his license immediately followed

St Luke's Hospital.—The opening exercises of the George Smith Memorial Building of St. Luke's Hospital were held this week On October 18, which was also St. Luke's day, the building was dedicated with impressive ceremony by Bishop Anderson, assisted by Rev. W. O. Waters, rector of Grace Church· on the following evening a reception and banquet was tendered to the Chicago Surgical Society; on Tuesday the trustees and medical board invited the medical profession of the city to inspect the hospital, and a reception was held from 8 to 10 p m ; and on the following day the hospital was thrown open for inspection by the public, when sixty Chicago women, members of the woman's board received This new annex to St Luke's Hospital, made possible by the bequest of $500 000 by the will of the late James Henry Smith fronts on Michigan avenue, is six and one half stories in height is to be devoted entirely to private patients, and contains 127 rooms, some of which are arranged in suites, containing sitting room, dining-room, bed chambers and bath. The new building is the most modern, scientific and complete structure of its kind in the city.

IOWA.

Indicted Chiropractic Flees.—Bannar Howard, a so called 'chiropractic" of Iowa City, indicted charged with practicing medicine without a license, is reported to have left the city

Merger Desired.—At the recent meeting of the Council Bluffs Medical Society, it was decided to make an effort to merge that organization with the Pottawattamie County Medical Society.

Hospital Notes.—The Des Moines Tuberculosis Institute will establish a colony near the city for advanced cases of tuberculosis. Nearly $500 has already been contributed and as soon as sufficient funds are raised an open air hospital will be constructed in the northeast part of the city, to cost $1,000 The institution has changed its name to the Des Moines Health League ——The Sisters of Mercy are about to establish a new sanitarium as an adjunct to Mercy Hospital, Iowa City, to cost about $30,000.

KENTUCKY.

State Board Overruled.—In the case of John Murdock, Alton, who was refused license to practice by the State Board of Health, Governor Wilson, on October 1, sustained the action of Lieutenant-Governor W. H. Cox in directing that the board should grant Murdock a license. The governor's contention is that Murdock was a graduate of a reliable medical college recognized officially by the State of Michigan. The state law provides that where the decision of the State Board of Health is objectionable, an appeal can be taken to the governor, and that his decision shall be final.

Antituberculosis Society Organized.—Under the name of the Board of Conference on Tuberculosis, an organization has been effected between the representatives of the agencies and institutions of Louisville engaged in the fight against tuberculosis. The conference comprises representatives from the City Health Department, the Board of Public Safety, the Kentucky Antituberculosis Association, the Association Sanatorium, and the Board of Tuberculosis Hospital, and its aim is to promote and further the work of these bodies in their efforts for the eradication of tuberculosis.

MARYLAND.

Honors Won at Tuberculosis Congress.—Many honors were won by Maryland at the recent International Congress on Tuberculosis, a $1,000 prize by the Phipps Dispensary, gold medals by the state board and Eudowood Sanatorium, besides silver medals and honorable mentions. These are itemized in the report of the congress in this issue of The Journal, under Society Proceedings.

Report of Conditions in County Alms Houses.—Dr. Arthur P. Herring, secretary of the State Lunacy Commission, has just finished an inspection of the county almshouses and asylums, and reports startling and revolting conditions. In some of these institutions the insane are incarcerated in unventilated cells, reeking in filth, and in damp underground rooms; are shackled and handcuffed together in iron cages, and buildings that are overcrowded and dilapidated. He found the state hospitals to be well conducted and pleasantly situated, so as to afford every facility for the modern care and treatment of the insane.

Baltimore.

Memorial Meeting.—A meeting in memory of the late George J. Preston was held in the College of Physicians and Surgeons, October 14, at which an oil painting of Dr. Preston was presented to the college by the students of the three upper classes.

Eponymic Rooms.—It is said that in the new building for the Medical and Chirurgical Faculty of Maryland, now being erected, the main hall will be named for Dr. Osler; other memorial rooms will be the Charles Frick reading room; the Baker librarians' room; and the Friedenwald conversation room.

Personal.—Dr. Hugh H. Young returned from Europe October 15.——John B. Schwatka, Jr., son of Dr. John B. Schwatka, died October 17, from consumption, contracted while a medical student in Baltimore, two years ago.——Dr. Joseph T. Smith, Jr., has been appointed professor of obstetrics at Johns Hopkins Hospital.

City Society Election.—At the annual meeting of Baltimore City Medical Society, held October 16, the water and subway loans were discussed, and resolutions were passed pledging the support of the society to the project. The following officers were elected: Chairman, Dr. Eugene McE. VanNess; secretary, Dr. Sidney M. Cone; and member of the executive committee, Dr. William Caspari, Jr.

MASSACHUSETTS.

Glanders in a Human Subject.—On October 11 a death from glanders was reported at the City Hospital, Boston. The man was a teamster and had been ill about two weeks, the disease being at first thought to be typhoid fever.

New Dean for Harvard Chosen.—The board of overseers of Harvard College has chosen for dean of the medical school Dr. Henry Asbury Christian, professor of theory and practice of medicine. The choice has occasioned much comment, inasmuch as Dr. Christian is but 32 years old. He has been teaching at Harvard Medical School since 1902, and has been instructor in pathology for five years.

Antivaccinationists' Campaign.—Sixteen homeopathic physicians of Boston have addressed a letter to the public through the daily press, protesting against compulsory vaccination and affirming their own belief in its inefficiency. Quotations are made from the publications of the league in England, including alleged statistics of mortality from smallpox among vaccinated people in India.

Ether Day Celebration.—Ether day was celebrated October 16 at the Massachusetts General Hospital with more than usual ceremony. It was the sixty-second anniversary of the first administration of ether for surgical purposes. Clinics and demonstrations in the amphitheater and other rooms occupied the morning. Luncheon was served on the lawn at 1 o'clock, and was followed by formal exercises in the amphitheater. Fifteen house officers received their diplomas of graduation. The chief address was made by Dr. William W. Welch of Johns Hopkins on "Surgery as Affected by Ether *Administration.*"

Boston Vital Statistics.—During the ten weeks ended Oct. 10, 1908, there were reported to the Boston Board of Health 2,287 deaths, as compared with 2,185 during the corresponding period last year, making an average weekly death rate of 19.27. Of these deaths 778 were under 1 year old, 1,078 under 5 years, and 458 over 60 years. The highest mortality was during the week ending August 22, 275, and the lowest during the week ending October 3, 212. There were reported 520 cases of diphtheria, with 35 deaths; 304 cases of scarlet fever, with 10 deaths; 320 cases of typhoid fever, with 22 deaths; 179 cases of measles, with 9 deaths; 482 cases of tuberculosis and 179 deaths; and 12 cases of cerebrospinal meningitis with 7 deaths; pneumonia caused 149 deaths, whooping-cough 125, heart disease 196, bronchitis 25, and marasmus 133.

New Hospitals.—October 14 and 15 two new hospitals were opened in Boston. One is the new emergency station of the City Hospital at East Boston, located on Porter street, a short distance from Central Square. For many years this district, which is separated from the city proper by the harbor, has urged its need of such an institution. A bequest from a former resident, Miss Ann E. Taggard, of about $11,500, was supplemented by $61,500 from the city. The building is of brick, with executive offices, waiting rooms, operating rooms, sterilizing rooms, etc. There are two small wards. In his address of presentation, A. Shuman, president of the Board of Trustees, called attention to the steady growth of the Boston City Hospital, which now includes 45 buildings, covering 28 acres of ground and valued at $3,376,231. The other hospital is the John C. Haynes Memorial Hospital for Contagious Diseases, which has been erected under the direction of the trustees of the Massachusetts Homeopathic Hospital. The fund of $175,000 left by Mr. Haynes has been expended in the erection of three large buildings located on Summit Avenue, Allston. The central or administration building contains the offices, nurses' and physicians' quarters. The two brick wards, include all the modern ideas of hospital construction and isolation. Forty-eight patients can be cared for on the two floors of each building, besides many in private rooms, a total of 110. The land, buildings and furnishings have cost $300,000. The purpose of the hospital is to supplement the great public wards of the South Department of the Boston City Hospital. There are no free beds. Patients may be cared for in the hospital by any physician in good standing. Only cases of diphtheria and scarlet fever are to be admitted. It is expected that the hospital will fill a large place in the community, which has had few private rooms for these patients, and none where they could be attended by family physicians.

MISSOURI.

Studies in Cancer.—On October 29, Dr. James G. Mumford, Harvard University, will address the St. Louis Medical Society on "Studies in Cancer, Historical and Critical." Dr. George W. Crile, Cleveland, Ohio, will open the discussion.

Society of Medical Secretaries.—The Missouri Society of Medical Secretaries has adopted a constitution and by-laws, which state as the *objects* of the society, the cultivation of closer relationship between component county societies; the establishment of more uniform methods of conducting meetings; the development of the best means of creating and holding the interest in the work, an increased membership, and the betterment of the general welfare of the organized profession of the state.

MONTANA.

Personal.—Dr. Louis H. Fligman, Helena, has returned after a year abroad.——Dr. Alfred Karsted, Butte, has been reelected state physician of the Sons of Hermann.——Dr. H. H. Swain, Dillon, sailed for Europe October 14.

Typhoid Fever and Smallpox.—An epidemic of typhoid fever is said to be raging at Taft.——The Secretary of the State Board of Health has ordered all smallpox patients at Victor isolated and has ordered the hotel disinfected.

Society Meetings.—On September 19, at the annual meeting of Fergus County Medical Society, held in Lewistown, Dr. John H. Willard was elected president; Dr. Williard A. Long, vice-president, and Dr. John T. Foley, secretary-treasurer, all of Lewistown.——At the annual meeting of Madison County Medical Association, held in Virginia City, September 30, Dr. Elmer L. Sutherland, Sheridan, was elected president; Dr. Arthur Jordan, Twin Bridges, vice-president, and Dr. Gay F. Tidyman, Ennis, secretary-treasurer.

Medical Ordinance.—An ordinance was recently introduced in the Butte city council which is understood to be approved by the Silver Bow County Medical Association. It provides more stringent measures than those of the state on the regulation of the practice of medicine. The ordinance taxes practicing physicians of all schools $20 a year, and provides that after a physician has secured a license from the state board, this must be presented to the clerk of the city of Butte for registration. The license will then be issued, but may be withdrawn if the license is revoked by the state board. The ordinance is intended to check the practice of advertising specialists, and the penalty for its violation is a fine of from $5 to $300, each day being considered a separate offense.

NEVADA.

State Meeting Postponed.—The meeting of the Nevada State Medical Association, which was to have been held in Goldfield October 6 and 7, has been postponed until November 10 and 11.

Fire in Rawhide.—A fire which started in the office of Dr. Gardner in Rawhide, September 4, caused a property loss of more than $750,000, rendered 300 people homeless, and resulted in the injury of twenty or more individuals.

NEW YORK.

Sanatorium Menaced by Fire.—Stony Wold Sanatorium for Tuberculosis, the state institution near Lake Kushaqua in the Adirondacks, is reported surrounded by forest fires, and more than 200 patients are ready to leave for a place of safety if the necessity should arise.

Delegates Visit Sanatorium.—Two hundred foreign delegates who have been attending the international congress on tuberculosis visited the Loomis Sanatorium, Liberty, October 10, on the invitation of Dr. H. W. King. They were entertained at dinner and inspected the various buildings.

Osteopaths to Register as Physicians.—The decision of the Court of Appeals in the case of Dr. Bandel of Brooklyn is that an osteopath may sign a death certificate and is on the same plane as any practitioner of medicine and surgery. Under this decision the Department of Health must register osteopaths as physicians and accept their death certificates.

New York City.

Cardiac Disease and Baseball.—Deaths from heart disease increased during the past week from 129 to 154. There were 70 deaths in Manhattan as compared with 58 for the previous week. It was alleged that the acute baseball situation was responsible for the increase.

Examination for House Staff.—There will be an examination for candidates for the position of interne of the City Hospital, New York, November 7, at 1:30 p. m., at the hospital on Blackwell's Island. Candidates are requested to submit credentials and to apply for further information to Dr. Joseph Collins, chairman of the examination committee, 37 W. 54th Street, New York.

Personal.—Dr. and Mrs. Smith Ely Jelliffe sailed for Europe October 17.——Dr. Phebe Dubois has received an appointment on the staff at the Flushing Hospital.——Dr. John F. Erdman has been appointed professor of surgery in the New York Postgraduate Medical School and Hospital.——Dr. Carl Beck, who has been dangerously ill with septic infection of the neck, is reported to be slowly improving.

New York Gets the Tuberculosis Exhibit.—Such an effective plea has been made to the board of aldermen that New York City has appropriated $20,000 for the purpose of bringing the exhibit in Washington to this city. In addition, $10,000 has been secured from private sources toward the sum of $30,000 necessary to carry out the project, to which George Phipps gave $1,500 and John S. Kennedy $1,500.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 10, 597 cases of tuberculosis with 156 deaths; 284 cases of diphtheria, with 18 deaths; 146 cases of scarlet fever, with 4 deaths; 108 cases of typhoid fever, with 12 deaths; 33 cases of whooping-cough, with 5 deaths; 3 cases of cerebrospinal meningitis, with 1 death; 68 cases of measles and 19 cases of varicella—a total of 1,258 cases and 196 deaths.

Dark Room Evil.—In 1902 the official records showed that there were 361,661 dark, windowless, unventilated rooms, breeding places of tuberculosis and other diseases in the city. The law of 1901 requires that a window should be cut into each one of these rooms, letting in light and air. Up to the present time but 31,508 of such rooms have had these windows provided as a result of the Tenement House Department's orders. At the present rate of progress it will take more than 80 years to let light and ventilation into the dark rooms of New York's tenements. The Tenement House Committee of the Charity Organization Society of the City of New York is appealing for sufficient funds in order that this reform may be hurried.

Sea Breeze Hospital.—This hospital was established four years ago for the treatment of all kinds of bone, joint and glandular tuberculosis. Four-fifths of the cases were advanced. Of the first 43 patients, 27 had one or more discharging sinuses, amounting to 71 in all. The same grade of severity prevailed among the later cases. During the four years 136 patients have been under treatment, of which exactly one-half, 68, were cases of spinal or hip disease, which in 81 per cent. was in an advanced stage at the time of admission to the hospital. Of the 68 patients, 42 have been discharged, and of these 36 per cent. were cured and 19 per cent. improved, making 55 per cent. that were either well or progressing to recovery when they left the hospital. Among the discharged cases were 22 in which the knee or other joints were affected. Although 80 per cent. of the patients were in an advanced stage of the disease, 73 per cent. were cured and 13 per cent. improved. Subscriptions to the amount of $250,000 have been received for a permanent hospital.

NORTH CAROLINA.

Diphtheria and Scarlet Fever.—The graded schools of Dunn, on September 30, were ordered to be closed for ten days on account of the prevalence of diphtheria.——Owing to the prevalence of scarlet fever in Salisbury, the graded schools were ordered closed until October 15.

Medical Society Protests.—At the October meeting of the Guilford County Medical Society, a resolution was unanimously adopted that the society protest against the recent act of the legislature in amending the drug laws of the state, leaving it discretionary with druggists to sell or refuse to sell cocain, morphin, or other derivatives of opium, and chloral hydrate, without the written prescription of a legally authorized physician.

Personal.—Dr. P. B. Ledbetter, Asheville, has begun his duties as resident physician at the Jefferson Medical College Hospital, Philadelphia.——Dr. Harrison W. Dorsett, Bethany, who has been seriously ill, is reported to be convalescent.——Dr. James A. Burroughs, Asheville, who has been seriously ill, has recovered and resumed work.——Dr. Archibald Cheatham, Durham, has succeeded Dr. Julian A. Smith as a member of the Durham County Board of Health.

Fined for Contempt of Court.—Dr. S. Westray Battle, Asheville, on October 3, was fined $25 by Police Judge G. Spears Reynolds for refusing to testify as to his knowledge of the sale of liquor in Asheville in violation of the prohibition law. Dr. Battle based his refusal to testify on the ground that the investigation was unconstitutional. Dr. Battle has appealed to a higher court, and has also instituted a personal suit for damages for $5,000 against those who were responsible for his name being presented to the investigating judge.

OHIO.

Left Large Estate.—The appraisement of the estate of the late Dr. John Q. Southard, Marysville, shows the value of real and personal property to be about $100,000.

Does Not Want Advertisement.—Monroe County Medical Society has passed a resolution asking the lay press not to mention the name of the attending physician when giving accounts of operations or illness.

Hospital Notes.—Elyria Memorial Hospital will, it is announced, be open for inspection from October 26 to October 30, inclusive, and will be open for the reception of patients

October 31.——Structural work has been completed on the new Franklin County Tuberculosis Hospital and the building has been turned over to the county commissioners.——A sanitarium for tuberculosis patients is about to be constructed in Lorain county.

Illegal Practitioners.—Dr. Gabriel Samter, Detroit, is said to have been fined $50 in Sandusky, September 11, for practicing medicine without the required certificate. The Erie County Medical Society prosecuted the case.——The governor and attorney general have decided that Allen Welk, an optician of Youngstown, must stop using the title, "Doctor," and must pass the state examination before resuming practice.——Haralambe Albanezuc, a Roumanian of Youngstown, was arrested August 23, charged with practicing medicine and surgery without a certificate from the state board, and was released under bond. He is said to have been acting as a specialist for men among his own countrymen, dispensing medicine and charging a small fee.

PENNSYLVANIA.

Doctor Fined for Failing to Make Report.—Dr. Ernest M. Vaughan, Royersford, alleged to have failed to report cases of typhoid fever, is said to have pleaded guilty, and to have paid the nominal fine, $25 and costs, amounting in all to $46.21.

Society Meetings.—At the annual meeting of the Northwestern Pennsylvania Medical Society, held in Cambridge Springs, the following officers were elected: President, Dr. James Johnston, Bradford; vice-presidents, Drs. George A. Reed, Erie; James B. Siggins, Oil City, and William C. Brittain, Cochranton; secretary, Dr. Michael V. Ball, Warren; treasurer, Dr. Charles W. Schmehl, Warren; and assistant secretary, Dr. Thomas Elliott, Sharon.

Rebukes for Physicians.—Steps are being taken by the Board of Health to break a practice of neglect on the part of physicians promptly to report all cases of contagious disease as required by law. Four physicians were summoned before the board October 15, and William H. Warwick was admonished for allowing a patient to travel in the street cars with diphtheria and was informed that a perpetration of a like offense would be summarily dealt with. Dr. Charles B. Wurtz was charged with a similar offense, but his explanation of the circumstances of the case was accepted by the board. The two other physicians, who did not appear, will be given another opportunity before legal steps are taken against them.

Railroad Accidents.—According to the first monthly accident bulletin, recently issued by the Pennsylvania State Railroad Commission, the daily average of accidents on the railroads and street railways of the state was 38. The bulletin issued on October 4 covers the month of August and shows that 1,193 persons were killed and injured on all the railroads and street railways of the state. Of this number, 759 casualities occurred on the railroads alone, thus making the percentage of accidents on such roads 64. A feature of the report is the large number of trespassers killed on the railroads. Under this classification was constituted 63 per cent. of all deaths which occurred on railroads during the month. More than 28 per cent. of fatal injuries was suffered by employés and 70 per cent. of injuries suffered on railroads occurred to employés. In the reports of the street railway companies relatively small injury to employés is shown. Seventy per cent. of the injuries reported were suffered by passengers. The average number of killed daily was almost 3 and the average number of accidents daily was about 35. Of the 92 deaths which occurred during the month, 55 were caused by persons being struck by trains.

Philadelphia.

Murphy Honored.—Dr. John B. Murphy, Chicago, was the guest of honor at the quarterly banquet and reception of the Medical Club of Philadelphia in the Bellevue-Stratford, October 16. Dr. Murphy, in a brief address, said that he often wondered whether the coming generation will receive the thorough education that is given to the present, because the private physician has lost control of the young men of to-day. This function, he said, is passing more and more into the hands of the privately endowed universities and institutions supported by the states. Dr. Murphy made a plea for more attention to clinic work, which he believed was being sacrificed for laboratory study. He said we should pay more attention to the *education* of the public along medical lines and the ethics of the medical profession, he said, should not be neglected. Dr. Murphy was also entertained at luncheon at the University Club by Dr. John B. Deaver.

TENNESSEE.

Society Meetings.—The East Tennessee Medical Society held its annual meeting in Newport, September 24 and 25. Dr. Ernest R. Zemp, Knoxville, was elected president; Dr. George R. West, Chattanooga, first vice-president; Dr. John W. Cox, Johnson City, second vice-president, and Dr. William M. Copenhaver, Bristol, secretary-treasurer.

Medical Colleges Open.—The opening exercises of the Medical Department of Vanderbilt University, Nashville, were held September 16, the opening address being delivered by Rev. W. H. Johnston.——The Medical Department of the University of Tennessee, Nashville, opened for its thirty-fifth annual session September 15. Dr. Hilliard Wood, the newly elected dean of the faculty, presided, and Dr. William D. Haggard delivered the address of welcome.——The Medical Department of the University of Nashville opened for its annual session September 15. Dr. William G. Ewing, dean of the faculty, welcomed the students, and announced that it was proposed to build a new hospital to be operated in connection with the institution.

TEXAS.

Will Erect Sanitarium.—Dr. Luther A. Grizzard, Abilene, is preparing to erect a sanitarium at Weatherford, to cost $25,000.

Communicable Diseases.—An epidemic of typhoid fever is reported in Flatonia.——Smithville reports two cases of diphtheria.——Several cases of smallpox are reported around Alazam.

Medical College Opening.—The Medical Department of the University of Texas, Galveston, opened for its annual session October 1, when Dr. James J. Terrill, acting professor of pathology, delivered the opening address.

Texas Gets Tuberculosis Exhibit.—Dr. William Brunby, state health officer, announces that he has arranged to have the New York State exhibit, which received so much favorable attention at the recent International Congress on Tuberculosis, shipped to the Texas State Fair for display.

Medical Board Loses.—The district court decided in favor of Harlam A. Trask, Houston, who sued the state board for a verification license for the practice of medicine. The board had refused, claiming that the license granted by the old board in 1904 was illegal. The board will appeal.

State Medical Law Upheld.—In the case of S. A. Morse, who sought a mandamus against the State Board of Medical Examiners to compel the board to grant the license which had been refused on the allegation of unprofessional conduct, the district court, September 18, decided that the action of the state board was valid, and refused the appellant a license.

Personal.—Dr. Gustave M. Corput, P. and H. and M.-H. Service, has been appointed physician to the public schools of Galveston.——Dr. B. T. Young has succeeded Dr. L. B. Bibb as quarantine officer at Port Cavallo.——Dr. A. E. Austin, formerly of Tufts Medical College, has been appointed successor to Dr. Seth M. Morris as professor of chemistry in the Medical Department of University of Texas, Galveston. Dr. Morris has been appointed to the chair of diseases of the ear, nose and throat.——Dr. Otis L. Williams, Oak Cliff, Dallas, is said to be critically ill.

WASHINGTON.

Hospital News.—The city council of Seattle has recommended the expenditure of $20,000 to maintain a city hospital in the municipal building.——The work on the new addition to the King County Hospital, Georgetown, will be finished about November 1.

Health Report.—The health report for Seattle for August shows 176 deaths, equivalent to an annual mortality of 7.63 per 1,000. The principal causes of death were diseases of the digestive system, 45; accidents, 23; diseases of the circulatory and nervous system, each, 4; tuberculosis, 12; diseases of the genitourinary system, 9; cancer and diphtheria, each, 6; typhoid fever and suicide, each, 5; homicide, 2; and scarlet fever, 1. During the month the following cases of contagious diseases were reported: Diphtheria, 53; typhoid fever, 48; tuberculosis, 15; scarlet fever, 14; measles, 9; smallpox, 4; and cerebrospinal meningitis, 1.

State Society Election.—The nineteenth annual meeting of the Washington State Medical Association was held in Walla Walla, September 7-9. The following officers were elected: President, Dr. Clarence A. Smith, Seattle; vice-presidents, Drs. Yancey G. Blalock, Walla Walla, and William D. Kirkpatrick, Bellingham; secretary, Dr. Curtis H. Thomson, Seattle; treasurer, Dr. Leon L. Love, Tacoma; delegate to the American Medical Association, Dr. James R. Yocum, Tacoma; alternate, Dr. Harold H. McCarthy, Spokane; judiciary committee, Drs. Charles S. Hood, Ferndale; Luther M. Sims, Kalama, and Frank Rose, Spokane. Seattle was decided on as the place of meeting for 1909, and July 25 was fixed for the date.

GENERAL NEWS AND COMMENT.

In Memory of Montgomery and Taylor.—The American Dermatological Association, at its recent meeting, adopted resolutions on the death of two of its prominent members, Dr. Frank Hugh Montgomery, Chicago, who was drowned in White Lake, Mich., July 14, while endeavoring to save the life of a companion; and Dr. Robert William Taylor, who died at his home in New York City, January 4.

National Epilepsy Association to Meet.—The eighth annual meeting of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics will be held at Indianapolis, November 10 and 11. Visits will be paid Tuesday to the Central Indiana Hospital for the Insane where Dr. A. E. Sterne will hold a clinic, and Thursday, to the new Indiana Village for Epileptics at New Castle. Further information can be obtained from the secretary-treasurer, Dr. J. F. Munson, Sonyea, New York.

Wants Data on Arrest of Epilepsy by Intercurrent Disease.—Dr. Weir Mitchell will be much obliged by an answer from members of the profession to the following query: Have you seen any cases of arrest, temporary or permanent, of undoubted epilepsy, owing to intercurrent disease, such as pneumonia, scarlet fever, measles, diphtheria, whooping cough or tuberculosis? Exact statements in regard to this matter are desired, addressed to Dr. S. Weir Mitchell, 1524 Walnut street, Philadelphia, at as early a date as may be convenient.

Military Surgeons Meet.—At the seventeenth annual meeting of the Association of Military Surgeons of the United States, held October 13 to 15, at the Piedmont Hotel, Atlanta, under the presidency of Dr. George Tully Vaughan, P. H. and M.-H. Service, it was decided to hold the next annual meeting at Washington, D. C.; and the following officers were elected: *President*, Rear Admiral Presley M. Rixey, Surgeon-General U. S. Navy; *vice-presidents*, Col. Joseph K. Weaver, N. G. Pa.; Col. William C. Gorgas, Medical Corps, U. S. Army; and Surgeon Charles P. Wertenbaker, P. H. and M.-H. Service; *secretary and editor*, Major James Evelyn Pilcher, U. S. Army, retired, Carlisle, Pa.; and assistant secretary, Capt. J. Carlisle DeVries, N. G., N. Y., New York City.

Another Typhoid Fever Carrier.—The board of officers of the U. S. Public Health and Marine-Hospital Service, appointed in conjunction with the health officer of the District of Columbia to investigate the cases of typhoid fever in the district, have made a very important discovery. Twenty-six cases of typhoid fever in Georgetown, D. C., between October 8 and 15 were traced to milk in one dairy farm in the neighborhood. On a thorough investigation of the dairy, no case of typhoid fever could be found, nor was there any history of such a case for years. The investigation included employés. Neither was there found any other source of infection until after a most systematic examination was made of dejecta of all employés. This led to the discovery of a woman who had typhoid fever eighteen years before, and whose dejecta showed a large number of typhoid bacilli. She was one of the milkers at the dairy.

Mississippi Valley Association Meeting.—The annual meeting of the Mississippi Valley Medical Association was held in Louisville, October 13 to 15, under the presidency of Dr. Arthur R. Elliott, Chicago. His presidential address was on "Currents and Counter-Currents in Medicine," and will appear in full in The Journal. Dr. George Dock, New Orleans, delivered the oration in medicine on "Tropical Diseases and the Mississippi Valley," and Dr. Arthur D. Bevan, Chicago, the oration in surgery on "Surgery of the Kidney." The following officers were elected: President, Dr. John A. Witherspoon, Nashville, Tenn.; vice-presidents, Drs. Louis Frank, Louisville, and Albert E. Sterne, Indianapolis; secretary, Dr. Henry E. Tuley, Louisville (re-elected); and treasurer, Dr. S. C. Stanton, Chicago (re-elected). St. Louis was selected as the place of meeting or 1909. A detailed report of the meeting will appear in an early issue of The Journal.

Appeal in Harper Case Withdrawn.—According to information received from Washington, Robert N. Harper, who was found guilty of misbranding under the Food and Drugs Act and fined $700, has withdrawn his appeal and has accepted the sentence of the judge. This action brings to a successful conclusion the first prosecution against "patent medicine" vendors instituted under the provisions of the national Food and Drugs Act. The details of the trial were given in The Journal, March 21, 1908, page 981. The reason given for the withdrawal of the appeal is that exactly the same issues are involved in the civil suit for the condemnation of certain quantities of Harper's preparation which were seized by the government at the time the court proceedings were instituted. This case is still pending. The action in the civil suit covers not only all the questions involved in the polic court trial, but a number of others of great importance, especially whether a manufacturer can, by proceedings under the Food and Drugs Act, be restrained from using a trade-marked name to designate his goods, when the use of such a name may constitute a misbranding of the goods sold under it. A decision having been secured in the criminal action, the outcome of the civil proceedings will be watched by all interested in the enforcement of the Food and Drugs Act.

FOREIGN.

Russians Withdraw University Privileges from Women.—Mme. Vera Dantschakoff, M.D., was recently elected privat docent for histology at Moscow, but the government authorities refused to confirm her appointment, stating that the regulations forbid the employment of women in the university faculties. The minister of public instruction issued about the same time a decree prohibiting the admission of women students to the university courses in future, although those at present enrolled will be allowed to complete their courses.

Centennial of Swedish Medical Association.—October 25 is the centennial of the founding of the Swedish Medical Association, and the anniversary is to be celebrated by issuing a *Festschrift* and distribution of a souvenir medal. The medal is of bronze and on one side bears medallions with portraits of the seven founders of the society, including Berzelius and Gadelius. This medal can be ordered by outsiders for 10 kronor ($2.70), and hundreds of orders were received from the members and other physicians in the Scandinavian countries and Germany. The medal is in charge of the secretary, Prof. E. Müller, Stockholm. The association has recently received a bequest from the late Prof. K. G. Lennander of $5,400 to endow a fund for lectures on surgery or hygiene by some eminent Swedish or foreign investigator. One-sixth of the income is to be added to the capital each year, and the rest paid to the lecturer; the lectures must be submitted for publication, so that the profession at large will also profit by them as they are published in *Hygiea*, the organ of the association.

LONDON LETTER.

(From Our Regular Correspondent.)

London, Oct. 3, 1908.

Syphilis in Uganda.

At the United Services Medical Society, Colonel Lambkin of the Royal Army Medical Corps gave an alarming account of the ravages of syphilis in the protectorate of Uganda, which once again illustrates the fact that the introduction of civilization into a savage country is not an unmixed blessing. The ravages of sleeping sickness in that country from opening up trade routes have been described in previous letters to The Journal, but according to Colonel Lambkin, the ravages of syphilis are still greater, for while the former slays its victims, the latter is transmitted to the next generation. There is evidence that occasional cases of syphilis have occurred in Uganda for many years, but about twelve years ago a severe outbreak began and since then the disease has increased in virulence and extent until it is now estimated that half the population are infected, and in some districts as many as 90 per cent. The infant mortality from the disease reaches 50 or 60 per cent. It seems that the population is threatened with extinction or degeneration. The type of the disease is extremely virulent, recalling that described by Sir William Ferguson in Portugal a generation ago. The principal cause to which the epidemic is attributed is the introduction of civilization, which has given to the women a freedom unknown under the tribal laws and opportunities for promiscuous intercourse. Stations are being established for the mercurial treatment of the disease.

Typhoid Carriers in India.

The existence of "typhoid carriers" has only recently been recognized in Great Britain. In an official report, which has just been issued, Lieutenant-Colonel Senple and Captain Greig, of the Indian Medical Service, state that typhoid carriers are by no means uncommon in India and are responsible for many outbreaks of the disease which have hitherto baffled explanation. An outbreak which occurred in a detachment of the Bedfordshire Regiment in Kasauli was found to be due to a cook who excreted intermittently the typhoid bacillus in large numbers in the feces. This man gave no history of typhoid fever, but some years before he had suffered from "ague of a severe character," which was probably an unrecognized attack of the disease. In examining a large number of healthy soldiers from different units stationed at Meerut, one man was found to be passing feces containing the typhoid bacillus in large numbers. He had never suffered from typhoid fever, but had been a nursing orderly in attendance on typhoid patients. Out of 10 cases of typhoid fever which occurred at Meerut, 7 came from the unit to which this man belonged. Attention is specially called to the discovery that orderlies in attendance on typhoid patients may become carriers without being attacked by the disease. While the danger from typhoid carriers is thus shown to be great, on the other hand, the bacillus can maintain a saprophytic existence in India only for a short time after its discharge from the body. Typhoid bacilli in urine and feces allowed to stand at a room temperature (80 F.) protected from the sun, die in from 72 to 96 hours. When exposed to the Indian sun the typhoid bacilli rapidly die. A piece of cotton sheeting and a piece of dirty blanket were soaked in fresh urine containing 60,000,000 bacilli per cubic centimeter and dried. On exposure to the July sun for 2 hours the sheeting failed to yield colonies of the bacillus and the blanket yielded only a few. After exposure for a further 6 hours the blanket yielded no colonies.

The Scientific Education of the Medical Student.

The ever-increasing complexity of science makes greater and greater demands on the time of the medical student and presents to medical educationalists an increasingly difficult problem: How to teach all that is necessary in the limited time of the curriculum. In spite of the extension of the time to five years, it is becoming evident that if room is to be made for the constant demands made on the student's time by the progress of knowledge, some of the older subjects will have to be sacrificed. At the recent meeting of the British Medical Association, Professor Starling, recognizing this difficulty, said we are "trying to get two pints into a pot which formerly held one." His remedy is drastic. He would dispense with the subjects of botany and zoology and would direct that every scientific subject studied, whether it be chemistry, physics or physiology, should be considered only in its bearings on the future work of the doctor. This eminent physiologist was followed by Professor Armstrong who, as a teacher of chemistry, urged a thorough revision of the methods of teaching that subject. "The teaching of chemistry," he said, "must be brought into direct relation with that of medicine, pharmacology and physiology, to a far greater extent than it has been in the past." The anatomists recommended almost equally sweeping changes. The systematic lecture was unanimously condemned and described by Professor Sherrington as "nothing but a relic of the middle ages." They also agreed that the teaching of histology should be made over to them by the physiologist.

Demonstrations at the Royal College of Surgeons.

A new departure has been made at Royal College of Surgeons by which the utility of the magnificent collection of the museum will be greatly increased. Demonstrations will be given by the conservator, Professor Keith, and the pathologic curator, Mr. Shattock. Professor Keith's demonstrations will commence October 16 with the subject, "Malformations of the Rectum and Anus." The other subjects are: "Malformations of the Urethra and Genital Passages," October 23: "Ectopia Vesicæ and Allied Conditions," October 30; "Malformations of the Face." April 23; "Cleft Palate and Malformations of the Tongue." April 30: "Malformations of the Neck," May 7. Professor Shattock's demonstrations will be given as follows: "Hypertrophy," October 19: "Atrophy," November 16; "Lipoma," November 30; "Fibroma." December 14; "Myxoma and Chondroma," January 18; "Osteoplastic Inflammation of Bone." February 8. These demonstrations are intended for advanced students and medical practitioners.

Apoplexy or Head Injury?

The problem of deciding whether an effusion of blood found within the skull on postmortem examination is due to injury or disease is often difficult and at times impossible. In a compensation case at the Blackburn County Court the point was decided in a curious but instructive fashion. A widow claimed compensation for the death of her husband, a laborer, who fell from a scaffold. The physicians who made the postmortem examination, said that a clot of blood found on the brain might have been either the cause or the effect of the accident. But witnesses stated that as the man fell he cried "My God!" This was held to discredit the theory of apoplexy and the widow was awarded $750.

Statistic Department at the London Hospital.

The latest addition to the long list of special departments attached to the London Hospital is a statistic department. The house commitee and medical council have long felt that the improved methods of modern statistic science should be applied to the collection and analysis of the unrivalled material of the hospital. It is hoped that an enormous number of practically untouched problems will be solved by the department. It is purposed to use voluntary workers, especially those desirous of preparing graduation theses, who will find excellent opportunities in the Department. If a sufficient number of students give in their names a course of theoretical and practical instruction will be given.

PARIS LETTER.

(From Our Regular Correspondent.)

Paris, Oct. 1, 1908.

Physicians and Industrial Accidents.

In the application of the law on industrial accidents, a number of practical difficulties have arisen which are of interest to the medical profession. In establishing the principle of compensation to the workman for injury sustained during or by reason of his occupation, the law of 1898 has transformed hitherto indigent individuals into paying patients, since hereafter the head of the concern involved will have to pay the medical expenses occasioned by accident. There is, however, an important omission in the law: it fails to provide that the victim of an accident shall be actually free to choose his own physician. It has therefore become, in the powerful hands of the great insurance companies, an instrument for the exploitation of physicians.

THE INSURANCE COMPANIES AND THE PHYSICIANS.

The insurance companies have compelled the physicians to agree to accept payment contracted for according to a schedule fixed in advance. The physicians are thus paid, not according to the gravity of the injury, but so much per accident—according to certain contracts, 10 francs, or about $2 for each case. Fortunately, some judges, taking into account the varying requirements of injuries, have refused to recognize the validity of such contracts, declaring that to do so would be "to insult the medical profession, to put the unfortunate injured at the mercy of unscrupulous insurance companies, and to impose a real pact of famine on the physicians who care for those crippled by industrial accident."

To understand how it was possible to find physicians ready to accept such "pacts of famine," it is necessary to know how the insurance companies operate. They send an agent to make advances to a physician in the neighborhood of a factory along the following lines: "If you accept our proposition, you shall be guaranteed against all competition; if you decline, the company will send to your locality a physician of its own selection." And, for fear of a competitor, the physician accepts. A circular letter addressed by a great company to the physicians of a provincial city contains the following words: "You are doubtless aware that all insurance companies are associated for purposes of mutual assistance and protection. We shall, then, if you are obdurate, be compelled to submit to the insurers' union the correspondence which you have addressed to us. The consequence will be, either that the physicians of the city of X—— will accept a reasonable schedule, or that such a schedule will be established through a physician appointed by the insurers' union, who will be sent into your city; this has been done in several localities where we have found the physicians recalcitrant, and has been found to work extremely well."

FREE CHOICE OF PHYSICIAN BY THOSE INJURED AT WORK.

The abuses of the insurance companies have led to a modification of the law of 1898, which, unfortunately, does not go far enough. Instead of providing that the victim of accident or his representatives alone have the right to choose his physician, the law of 1905 merely provides that the victim shall always have the privilege of choosing his physician. The insurance companies seek, in disregard of law and of the welfare of the injured, to impose on the victim the company's physician. By the law of 1905 a fine of 16 to 300 francs (about $3.20 to $60) may be imposed on any one who, by threat of dismissal or by withholding or threats of withholding indemnities due under the law, shall interfere or attempt to interfere with the right of the victim to choose his own physician. It is disgraceful that this penalty should have been first enforced against a physician. Sent by the employer to the home of the injured man, who was already under the care of a physician, this physician demanded to be allowed to remove the dressings applied by his confrère and to examine the wound, which was refused. Then he brandished some printed papers which he had in his hand, declaring that he would tear them up and that the wounded man should have no indemnity. The attending physician, seeing an attempt to infringe the patient's right to choose his own physician, took the affair into court. The offender was condemned to pay a fine and damages to the attending physician.

EXPERTS WHO ARE TOO COMPLAISANT.

The insurance companies have also been able to make advantageous arrangements with certain experts, whose morality is less elevated than their medical reputation. The result is that, out of seventy physicians on the list of experts, the companies' lawyers see that only a certain dozen are always called on for expert evidence in accident cases. Therefore, as the minimum price of expert evidence is 100 francs (about $20), and as in 1907, for instance, the twelve experts have delivered nearly 8,000 pieces of expert evidence, the insurance companies have thrown into their hands in the course of a year 800,000 francs (nearly $16,000). These experts show their gratitude by assisting the companies to economize at the expense of the injured and of other physicians. They arbitrarily reduce the bills for medical expenses and as arbitrarily minimize the incapacity for work resulting from accidents.

BERLIN LETTER.

(From Our Regular Correspondent.)

Berlin, Sept. 10, 1908.

Personal News.

The professor of physiology in our university, Professor Engelmann, retires this winter from his professorship. He was the successor of Du Bois-Reymond, who followed his teacher, Johannes Müller. Engelmann certainly was not the equal of his two predecessors in importance. While Johannes Müller was one of the most talented physiologists of all times, and Du Bois-Reymond was a spirited, versatile investigator distinguished by brilliant speech and literary gifts, Engelmann merely represents the type of a learned specialist who to be sure has produced valuable works, especially in the field of physiology of the heart. There is as yet no conjecture as to his successor. After Du Bois-Reymond's death, Rubner, the hygienist, is said to have solicited the chair, and there is no question that this distinguished and trained investigator in physiology would have filled his place well. The reason why Rubner was not called is not known. Hermann Munk, a pioneer particularly in the field of physiology of the brain, also appeared as a claimant. He was rejected, according to general belief, because he was of the Jewish faith. This year Munk resigned the chair of physiology at the veterinary college of this city. His successor is a young, but gifted investigator, Dr. Abderhalden, who was advanced from the position of privatdocent to that of ordinarius. Engelmann's assistants, Nagel and Thierfelder, are also leaving Berlin, the former to succeed to the chair of the recently deceased Professor Langendorff, at Rostock, and the latter to go to Tübingen as successor of Professor Hüfner. Thus the staff in charge of the Physiologic Institute here will have to be new throughout.

Medical Study Trips.

In 1902 a committee was formed in Berlin to organize annual educational trips for physicians to watering places and health resorts. The participation of German physicians has varied between 100 and 300 members, according as the points to be visited were more or less interesting. The expense to each participant in the study trip varies between 150 and 300 marks ($36 to $72), which is surely not high for an average of 14 days; railroad fare, lodging and services are furnished. The organization and the entire arrangement have proved very successful, so that the patronage has on the average increased from year to year. The proprietors of the health resorts take care to impart to physicians as much information as possible during their stay, and the study trip is personally conducted by some eminent clinician. Dr. Oliver, of Berlin, is the general secretary of the committee, and this year's trip was made under the direction of von Strümpell, of Breslau, to Teneriffe. The institution has attracted the attention of other countries, and similar ones have been established in France, Belgium, Austria, etc., and an international committee for medical education trips has been formed. It is planning a common journey to Hungary next year on the occasion of the international medical congress at Budapest.

Death of Professor Poehl.

While passing through Berlin a few days ago, Prof. v. Poehl, of St. Petersburg, died. He was better known from the introduction of various pharmaceutical preparations, especially his spermin, which was advertised with such remarkable claims, than for his scientific achievements. At the German as well as the foreign medical congresses, Poehl was for a long time an unfailing speaker, who either in an address announced beforehand or on the occasion of a debate seized the opportunity to discourse on the subject of catalysis and to end with spermin. These constant discussions which by their repetition became distasteful and unconvincing, and still more the puffs becoming constantly more fervent in the advertising sheets, alienated Poehl to a greater or less extent from his original adherents. This may be one reason why in late years he has not taken part in congresses so far as I know. In the medical and also in the lay journals one still reads that Poehl's spermin is successfully applied in "neurasthenia, senile marasmus, anemia, rachitis, gout, chronic rheumatism, syphilis, hysteria, tuberculosis, typhus, diseases of the heart, nephritis, tabes dorsalis, paralysis, neurasthenic impotence, overwork, acute diseases, and for convalescents." Few quack advertisements would differ much from this puff of Poehl's spermin.

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, Oct. 8, 1908.

Remuneration of Medical Men in Public Office, Etc.

An interesting statistical study of the financial aspect of medical appointments has recently been published in an official paper. About 40 per cent. of the doctors in the country, and about 20 per cent. of those in the towns and cities hold public appointments, either as officers of public health, or as poor-law or police physicians. The lowest remuneration for public health officers is about $240 a year. This sum is offered to and accepted by men aged about 28 or 30, who have passed five years in medical study and three years in hospital practice, and who have passed the special examination for public health officer. The appointment given is that of assistant to the district health officer, and no private practice is allowed. State appointments are ill paid, considering the amount of work required. The highest salary paid to appointees is $2,400 a year; only 10 per cent. of medical officers ever reach this. The majority (60 per cent.) are paid from $1,000 to $1,800 a year, with some emoluments besides. Usually no private practice is permitted, or if it is permitted, the health officer has not time for it. Old-age pensions are, however, granted to the holders of such officers, and pensions are given to their widows.

Salaries of medical officers of private concerns, such as the official sick-benefit society, or *Krankenkasse*, factories, etc., are also very moderate. Seventy per cent. receive about $400 to $600 a year, with the right of private practice, while 13 per cent. receive between $600 and $1,500 a year through cumulative appointments. The rest receive less than $400 a year.

These figures show that the study of medicine has been taken up by men who need a certain fixed income. On the other hand, the profession is evidently overcrowded, or its members would not consent to do such work for so little.

Only recently, the fees for medical expert witnesses and for public vaccinators have been fixed so as to be more proportionate to the loss of time entailed by the service. Still the profession is unable to bring about a modification of the law so as to limit the number of those who must belong to the *Krankenkasse*, which at present includes all those in subordinate industrial or business positions. The doctors want to make those who draw a higher salary than $500 a year ineligible to membership. This would increase the chances of the private practitioners, and relieve the task of the holders of medical appointments in the *Krankenkasse*.

The figures of the tax assessors differ a little from those just cited. According to the tax assessors, less than 5 per cent. of all medical office holders receive $240 a year; and about 70 per cent. receive average pay. The cause of this difference in estimates is not clear; but even these figures are scarcely gratifying to the medical student.

Pharmacology

NARKINE.

The Intangible Product of the Tilden Laboratory.

A little book, published by the *Druggists Circular*, and called "Modern Materia Medica," gives in dictionary form the information regarding new remedies which that journal publishes in its monthly issues. Such information is not always acceptable to the manufacturers of various preparations of doubtful value. A case in point is brought to notice with reference to a remedy called Narkine, put out by the Tilden Company of St. Louis. In this little book the following appears:

> "Narkine is described as 'an opium preparation from which all deleterious qualities have been eliminated'; an unsupportable claim, as all opiates and other hypnotics are essentially deleterious."

The Tilden Company wrote to the *Druggists Circular*, stating that they guaranteed Narkine "to be absolutely free from coal-tar or opium derivatives," yet the "literature" of the company describes it as

> "a specially prepared product of opium devoid of the nauseating and disagreeable properties of this drug, yet possessing the anodyne and soporific principles of same in the highest degree."

To remove from opium all its derivatives and yet retain the anodyne and soporific principles attached to nothing in particular, indicates a degree of pharmaceutical skill seldom attained. One is irresistibly reminded of the Cheshire cat in "Alice in Wonderland," whose smile remained long after the cat had vanished.

The absurdity of the thing, however, has apparently not occurred to many physicians, for these disembodied spirits of the pharmacologic world are evidently being prescribed.

The *Druggists Circular* is to be congratulated on exposing this latest pharmaceutical freak. It does so in a rather striking manner by means of photographic reproductions of the claims of the Tilden Company.

"Patent Medicines."

In a discussion of the relation of pharmacists and physicians, Robert Wright, in his presidential address to the British Pharmaceutical Conference (*Pharmaceutical Journal*, Sept. 19, 1908), calls attention to the alarming growth of the trade in so-called "patent medicines" in the United Kingdom. Statistics show that the amount expended in remedies of this sort has increased from $1,697,500 in 1860 to $12,707,000 in 1907. The amount spent per capita is now five times as great as it was a half a century ago.

The author says: "Figures such as these command our most serious consideration. After making full allowance for the increased spending power of the masses, they prove conclusively that notwithstanding the wide diffusion of knowledge, the spread of education and the raising of the standard of intelligence among the people, the appeal of the quack and the charlatan to the credulity of the public meets with a readier response than ever. Judging from the character of the advertisements which appear in the public press and the results accomplished, it would seem as if the secret of success lay partly in throwing around the origin of the article advertised the glamor and romance of the marvellous, partly in a most cunningly devised appeal to all the weaknesses of mind and body to which frail mortals are subject, but chiefly, I think, to the lavish expenditure of money and the variety and persistence of the methods of advertising employed in order to secure the end in view. Let anyone take up a daily paper or public journal of any kind and study a few of these quack advertisements, and he will find that the main object in almost all is to produce in the mind of the reader, either by suggestion or by means of a highly exaggerated description of the symptoms supposed to characterize a certain disease or combination of diseases, the idea that he is suffering from this particular ailment of which the remarkable remedy advertised is an absolutely certain cure. The entire system is nothing more or less than a gigantic and most monstrous imposture from beginning to end."

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

COMPOSITION OF MARMOLA AND RENGO FRUIT.

Chicago, Oct. 7, 1908.

To the Editor:—I have recently seen two patients who have been taking marmola for obesity, and both showed marked nervous reactions. I wish that, if possible, you would state the composition of this preparation. If the cases which I have seen are any criteria, marmola is distinctly injurious and should be strongly condemned.

Milton Mandel, M.D

Answer.—At the recent session of the American Medical Association, Dr. Reid Hunt, chief pharmacologist, and Dr. Atherton Seidell, chemist, of the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, noted that thyroid preparations (like almost all other drugs whose value physicians have discovered) had already passed into the hands of the laity and are probably more extensively used by them than by physicians. (See the article in this issue, page 1385.) They noted that "patent medicine" manufacturers have taken advantage of the action of thyroid, and that most antifat remedies now contain thyroid as the active ingredient. Along with other antifat remedies containing thyroid, Drs. Hunt and Seidell named marmola. They compared the indiscriminate use of thyroid with the extended use which acetanilid enjoys, or at least did enjoy with the laity. It was noted that the medical profession quickly appreciates the dangers connected with new remedies and learns to use them cautiously. Thus, with thyroid, many physicians have already practically abandoned its use for safer remedies, or are using it only in cases in which it is indispensable. On the other hand, "patent-medicine" manufacturers notwithstanding their ignorance of the first principles of diagnosis and therapeutics, most recklessly advocate the use of remedies that may be pregnant with danger.

In this connection it may be well to call attention to "Rengo Fruit," another much advertised "obesity cure," which also is referred to by Drs. Hunt and Seidell. Dr. L. F. Kebler, chief of the drug laboratory of the Bureau of Chemistry, U. S. Department of Agriculture, discussed the analysis of this "patent medicine" in a paper that appeared in The Journal, Nov. 17, 1906. It was shown that the "fruit" really consists of thyroid gland, poke root, cascara and other drugs.

RADIUM.

Dothan, Ala., Oct. 7, 1908.

To the Editor:—Where can radium bromid be bought and at what price? What is the technic of application in epithelioma of the face?

W. C. Howell, M.D.

Answer.—Radium is sold by Eimer & Amend, New York City. The current prices of different strengths can be learned on application to them. Pure radium bromid is not always obtainable without delay. It is handled in commerce in small glass capsules or it may possibly be obtained incorporated in a shellac disc. In the treatment of epithelioma the radium container is applied directly to the lesion. The alpha and beta rays have very little penetrability. In using radium, therefore, it is desirable to use a container having a window of mica or some other material through which the beta rays will penetrate; the alpha rays will not even penetrate this. The duration of the applications vary according to the strength and the quantity of radium used. With fifty milligrams—about 8/10 of a grain—of pure radium bromid, relatively a very large quantity, Williams makes applications of from one to four minutes on alternate days, continuing them until improvement appears in the lesion. Pure radium bromid is estimated at 1,800,000 units activity. With weaker preparations, correspondingly longer applications must be made. With a given specimen one needs to increase the applications tentatively until one gets evidences of effect either by improvement in the lesion or by the appearances of a reaction.

CHEMICAL CHANGES IN BUTTER-MAKING.

Philadelphia, Oct. 12, 1908.

To the Editor:—What chemical change takes place in churning sweet cream to butter, leaving the buttermilk sour?

F. W. Steinbock.

Answer.—The souring of the milk is due to the action of bacteria, principally the *Bacillus lactici acidi,* on the sugar of the milk. One molecule of milk sugar, by the assumption of water, gives rise to four molecules of lactic acid. $C_{12}H_{22}O_{11}+H_2O=4HC_3H_5O_3$. The churning of the milk aids the process only by thoroughly mixing the bacilli with the milk and thus enabling them to reach the molecules of sugar more readily. Moderate increase of temperature also favors the fermentative action. In "sweet" cream the action of bacteria may have begun before the cream is put in the churn, but not have progressed far enough to render the acid perceptible to the taste. These statements are made in simple form and do not detail all the chemical changes occurring in the souring of milk. Milk sugar must be converted into dextrose and galactose before lactic acid can be formed. Other acids, such as acetic and butyric, are also formed in small quantities. The changes varying according to the temperature and according to the organisms present in the milk.

ATROPIN SULPHATE IN GENERAL ANESTHESIA.

Boise, Idaho, Sept. 15, 1908.

To the Editor:—In his article on "Artificial Respiration" in The Journal, Sept. 5, 1908, p. 803, Prof. Schäfer speaks of the beneficial effects of atropin in general anesthesia and says certain dangers may be "obviated by hypodermic administration of a small dose (1/50 grain) of atropin sulphate." Is this a misprint, or does he consider 1/50 grain hypo. a small dose? J. M. Taylor.

Answer.—The above query was referred to Prof. Schäfer, who says:

I suppose 1/50 grain atropin would be reckoned a large dose, and I was not right in putting in the word "small." I always direct that 1/100 grain should be first given, half an hour before the operation, and another 1/100 grain shortly before the chloroform is administered. This is safer in case there should be any idiosyncrasy favoring the development of adverse symptoms. But I have never, under these circumstances, heard of any, and in dogs I always give the 1/50 grain in one dose. As a matter of fact, I believe that the average in the treatment of some affections goes up to 1/30 grain or even higher.

MEDICAL SERVICE IN ARMY AND NAVY.

————————, Ohio, Oct. 12, 1908.

To the Editor: Where can I secure information regarding medical service in the Army or the Navy? M. X.

Answer: A page was devoted to the detailed answer of this question in The Journal, Oct. 19, 1907, page 1386. Information may also be obtained from the surgeon-general of the Army or the Navy at Washington, D. C.

KUGEL'S OPERATION FOR OCCLUSION OF THE PUPIL.

Winnipeg, Man., Sept. 21, 1908.

To the Editor:—Please inform me where I can find a good description of Kugel's operation for occlusion of the pupil. It is mentioned on page 114 of a new book by Claiborne on "Cataract Extraction," but is not described. Raymond Brown, M.D.

Answer.—A description of Kugel's operation for occlusion of the pupil can be found in *Archiv. f. Ophthalmologie,* lxiii, page 55. It is also mentioned with other operations for secondary cataract by Dr. Denig in the *Ophthalmic Record,* January, 1907.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Oct. 17, 1908:

Rand, I. W., maj., relieved from duty in the Philippines Division, in time to sail, Dec. 15, 1908, for San Francisco, Cal.

Hartnett, E. H., capt., and Love, A. G., lieut., relieved from duty in the Philippines Div., in time to sail, Jan. 15, 1908, for San Francisco, Cal.

Moncrief, W. H., capt., Huntington, P. W., capt., and Snyder, H. M., lieut., relieved from their present duties in time to sail, Dec. 5, 1908, from San Francisco, Cal., for Philippine service.

Cole, C. LeR., capt., granted leave of absence for ten days.

Brechemin, Louis, lt.-col., relieved from duty in charge of medical supply depot, New York City, and ordered to sail, Nov. 5, 1908, for Philippine service.

Blanchard, R. M., capt., ordered from Ft. Wingate, N. M., to Whipple Bks., Ariz., for duty with troops on a 21-day practice march.

Torney, G. H., col., granted leave of absence for fifteen days.

Pipes, H. F., capt., relieved from duty with Co. C., H. C., and ordered to duty at the Army General Hospital, Washington, D. C.

Adair, G. W., col., granted leave of absence for one month.

Ragan, C. A., capt., ordered to return to Ft. Monroe, Va., from treatment at Washington, D. C.

Wyeth, M. C., maj., having been found physically disqualified for the duties of lt.-col. in the Medical Corps, by reason of disability incident to the service, his retirement from active service as a lieut.-col. is announced to date from May 1, 1908.

Borden, W. C., maj., having been found physically incapacitated for active service, is ordered to his home to await retirement.

Brechemin, Louis, lieut.-col., granted leave of absence for one month, ten days; will sail from San Francisco, Cal., for the Philippines, December 5, instead of November 5.

Daywalt, G. W., M.R.C., relieved from his present duties in time to sail, Dec. 5, 1908, from San Francisco, Cal., for Philippines.

Maloney, J. E., M.R.C., assigned to active duty and ordered to Ft. Hancock, N. J., for duty.

Slayter, J. T., M.R.C., granted leave of absence for ten days.

Henry, Z. L., M.R.C., assigned to active duty and ordered to Ft. Thomas, Ky., for duty.

Lord, L. W., M.R.C., assigned to active duty and ordered to Ft. Riley, Kans., for duty.

Suggs, Frank, M.R.C., granted leave of absence for one month, about October 22.

Shepherd, J. M., M.R.C., granted an extension of one month to his leave of absence.

Ballard, J. C., M.R.C., ordered to active duty and to proceed to Ft. Sam Houston, Texas, for duty.

Leech, W. F., M.R.C., ordered to active duty and to proceed to Jefferson Bks., Mo., for duty.

Coffin, H. L., M.R.C., granted leave of absence for four months

Voorhies, H. G., dent. surg., granted leave of absence for fifteen days.

Lauderdale, C. E., dent. surg., relieved from duty in the Philippines Div., in time to sail from Manila, Dec. 15, 1908, for the U. S.

Stallman, G. E., dent. surg., ordered from Ft. Sam Houston, Texas, to Ft. Logan H. Roots, Ark., for temporary duty.

Oliver, R. T., ex. and sup. dent. surg., ordered to New York City to inspect dental supplies.

Whinnery, J. C., dent. surg., ordered to duty successively at Ft. George Wright, Wash., Ft. Walla Walla, Wash., and Boise Bks, Idaho.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Oct. 17, 1908:

Passed Assistant Surgeon L. W. Bishop, detached from the Naval Hospital, New York, and ordered to the Naval Recruiting Station, Omaha.

Surgeon E. M. Shipp, detached from the *Pennsylvania,* October 28, and ordered home to wait orders.

Surgeon S. G. Evans, detached from the Naval Hospital, Washington, D. C., October 17, and ordered to the *Pennsylvania,* October 28.

Assistant Surgeon M. E. Rose, detached from the Naval Recruiting Station, Omaha, and ordered to the *Hist.*

Medical Inspector J. D. Gatewood, commissioned medical inspector from Sept. 18, 1908.

Passed Assistant Surgeon P. T. Dessez, detached from duty at the Naval Hospital, Las Animas, Colo., and ordered to the *South Dakota.*

Medical Inspector O. Diehl, commissioned medical inspector from Oct. 11, 1908.

Assistant Surgeons J. A. B. Sinclair, G. B. Whitmore, R. Cuthberson, D. H. Noble, appointed assistant surgeons from Oct. 12, 1908.

Surgeon C. H. T. Lowndes, detached from the *South Dakota* and ordered home to wait orders.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended October 14, 1908.

Kerr, J. W., asst. surg.-general, granted 7 days' leave of absence from Oct. 16, 1908, under Paragraph 191, Service Regulations.

Ballhache, P. H., surgeon. Leave of absence for 20 days from Sept. 21 1908, amended to read 15 days from September 21, 1908.

Stoner, G. W., surgeon, granted 15 days' leave of absence from Oct. 8, 1908.

Nydegger, J. A., passed asst.-surgeon, leave of absence for 23 days from Sept. 19, 1908, amended to read 22 days from Sept. 19, 1908.

Heiser, V. G., passed asst.-surgeon, granted 30 days' leave of absence while en route to join station at Manila, P. I.

Burkhalter, J. T., passed asst.-surgeon, granted 7 days' leave of absence from Oct. 1, 1908.

Stimson, A. M., passed asst.-surgeon, directed to proceed to Santa Ana and points in vicinity of Los Angeles, Cal., on special temporary duty.

Smith, F. C., passed asst.-surgeon, granted 7 days' extension of leave of absence from Oct. 18, 1908.

Salmon, T. W., passed asst.-surgeon, directed to report to commanding officer revenue cutter *Gresham,* Oct. 19, 1908, for temporary duty.

Frost, W. H., asst.-surgeon, granted 15 days' leave of absence from Oct. 11, 1908.

Abbott, F. C., acting asst.-surgeon, granted 14 days' leave of absence from Oct. 11, 1908.

Houghton, M. W., acting asst.-surgeon, granted 9 days' leave of absence from Oct. 11, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 16, 1908:

SMALLPOX—UNITED STATES.

Indiana: Lafayette, Sep. 21-28, 2 cases.
Kentucky: Covington, Sept. 26-Oct. 3, 1 case.
Massachusetts: Lawrence, Sept. 12-9, 1 case.
Missouri: St. Joseph, Sept. 19-26, 1 case.
Washington: Spokane, Sept. 19-26, 2 cases (imported).
Wisconsin: La Crosse, Sept. 12-19, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Aug. 23-30, 685 cases, 294 deaths.
Canada: Halifax, Sept. 19-26, 1 case.

Ecuador: Guayaquil, Sept. 5-12, 5 deaths.
India: Bombay, Aug. 25-Sept. 1, 3 deaths.
Italy: General, Sept. 21-27, 16 cases. Naples, Sept. 20-27, 1 case.
Java: Batavia, Aug. 22-29, 2 cases.
Norway: Christiania, Sept. 5-12, 22 cases, 1 death.
Russia: Moscow, Aug. 29-Sept. 12, 42 cases, 9 deaths; St. Petersburg, Aug. 22-Sept. 5, 9 cases, 2 deaths.
Warsaw: Warsaw, Aug. 8-15, 4 deaths.
Spain: Valencia, Sept. 12-19, 1 case.
Straits Settlements: Penang, Aug. 15-22, 1 case, 1 death.
Turkey: Constantinople, Sept. 6-13, 8 deaths.

YELLOW FEVER.

Cuba: Habana, Sept. 29-Oct. 4, from S. S. *Merida*, 1 case, 1 death.
Ecuador: Guayaquil, Sept. 5-12, 1 death.
France: St. Nazaire, Oct. 7, present.
Martinique: Fort de France, Sept. 12-26, 5 cases, 3 deaths.
Mexico: Vera Cruz, Oct. 12-13, 2 cases.

CHOLERA.

India: Bombay, Aug. 25-Sept. 1, 1 death; Madras, Aug. 22-28, 74 deaths.
Japan: Moji, Sept. 2-7, 18 cases, 6 deaths; Wakamatau, Aug. 25-Sept. 7, 4 cases, 1 death.
Russia: General, to Sept. 20, 10,359 cases, 4,633 deaths; Moscow, Aug. 29-Sept. 12, 3 cases, 2 deaths; Riga, Sept. 19-26, 2 cases; St. Petersburg, to Sept. 26, 4,732 cases, 1,764 deaths.

PLAGUE.

Ecuador: Guayaquil, Sept. 5-12, 1 death.
Egypt: General, Aug. 20-Sept. 17, 39 cases, 16 deaths; Alexandria, Aug. 20-Sept. 17, 8 cases, 4 deaths.
India: General, Aug. 22-29, 1,783 cases, 1,239 deaths; Bombay, Aug. 25-Sept. 5, 28 deaths.
Indo-China: Cholen, Aug. 15-22, 20 cases, 19 deaths; Saigon, Aug. 15-22, 6 cases, 4 deaths.
Peru: Callao, Sept. 5-12, 1 case.
Venezuela: Caracas, Sept. 7-21, 4 cases, 2 deaths.

Medical Economics

Medical Legislation in Arizona.

OPERATION OF THE NATIONAL FOOD AND DRUGS ACT IN TERRITORIES.

Encouraging evidence of progress in Arizona is found in an address by Dr. C. E. Yount, of Prescott, in the September number of the *Southern California Practitioner*. Dr. Yount, who is the member of the National Legislative Council for the territory, discusses the problems of medical legislation which confront the Arizonia Medical Association. Reviewing existing legislation in the territory, he says:

> The national Food and Drugs Act is in force in Arizona, but I ask you if any violations have been noted—who would note them? The statute provides that the article in question may be submitted for examination by the chief health, food and drug officers of any state and territory. . . . Has our superintendent of public health any money at his disposal for such collection of specimens? The United States Government Laboratory at Washington will make the chemical analyses, but what provision is made for the regular and systematic investigation of those foodstuffs and drugs shipped into the territory? We have an opportunity to be of great assistance to our superintendent of public health and materially to assist in broadening his sphere of usefulness.

Dr. Yount has emphasized a weakness in the present national Food and Drugs Act which can only be remedied through active cooperation on the part of the profession and the public. As soon as Arizona is admitted to statehood, she will, of course, be able to protect her citizens from food adulteration by legislative enactment, but so long as she remains a territory, her people must look to the national government for protection. If no provision has been made for pure food inspectors in the territories, this defect should be supplied at once.

TUBERCULOSIS IN ARIZONA.

Dr. Yount discusses at length the regulation of tuberculosis—a vital question in Arizona on account of the number of tubercular patients who go there in search of health. He favors a rigid system of registration of tubercular patients and disinfection of all trains or quarters occupied by them, including sleeping berths, rooms in hotels, boarding houses, etc. Regarding indigent tubercular patients, he says:

> In at least three counties . . . the care of the indigent tuberculous who come to us from other states has placed on us a peculiar economic burden. . . . Restriction of immigration of the indigent tuberculous should be encouraged. If legislation to that effect, having as its object deportation, seems too harsh and altogether out of place, at least let us educate the profession to see that it were better that such cases remain at home rather than die in our ill-equipped county hospitals.

Without doubt, the flocking of large numbers of tuberculous patients to certain localities in the southwest has proved a decided tax on the charity of both physicians and the public. The facts stated by Dr. Yount should be carefully considered by physicians before advising patients who are not in easy circumstances to attempt the journey to Arizona, California or New Mexico.

Dr. Yount also calls attention to the necessity for an adequate law for the registration of births and deaths. In Arizona this seems particularly advisable, as accurate figures regarding the cause of death would be indispensable in framing a proper law for the regulation of tuberculous patients from other states, tuberculosis sanitariums, etc. A state or territory in which so many of the fatal cases of illness are imported is in all the greater need of an accurate, modern registration law.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month.

SECOND WEEKLY MEETING.

I. DISEASES DUE TO PROTOZOA (*Continued*).

A. MALARIAL FEVERS (*Continued*).

Diagnosis.—Technic of blood examination. Clinical diagnosis. Therapeutic test.

Treatment.—Prophylaxis, destruction of mosquito, isolation of patient, use of quinin. Medicinal treatment: quinin, effect on malarial parasite, preparations and doses, time of administration, methods of administration. Treatment of malarial cachexia, physiologic and therapeutic action of each drug.

B. AMEBIC DYSENTERY.

Etiology.—Amœba dysenteriæ, size, ectosarc, endosarc, nucleus, vacuoles; recognition in tissues, pus, sputum, feces; culture growth, symbiosis. History, occurrence in the United States.

Symptoms.—(1) Acute amebic dysentery: sudden onset, pain, tenesmus, bloody, mucous discharges, pulse and temperature. Course and terminations. (2) Chronic amebic dysentery: gradual onset or follows acute attack, alternating constipation and diarrhea, general symptoms.

Complications.—Hepatic abscess, hepato-pulmonary abscess, hemorrhage, perforation and peritonitis.

C. TRYPANOSOMIASIS.

Etiology.—Trypanosome, occurrence in animals, varieties, transmission by tsetse fly, occurrence in human. Symptoms. Latent period, gradual onset, trypanosome fever, emaciation, loss of strength, enlarged lymph glands and spleen, edema of feet. Association of trypanosomes with sleeping sickness.

D. TROPICAL SPLENOMEGALY.

Parasite, description, occurrence in body, distribution of disease.

2. DISEASES DUE TO CESTODES.

A. INTESTINAL CESTODES: TAPEWORMS.

1. Tænia solium, pork tapeworm. Length, head, neck, proglottides, ova, hooked embryos, cysticerci. "Measled" pork. 2. Tænia mediocanellata or saginata, beef tapeworm. Length, head, segments, ova, cysticerci. "Measled" beef. 3. Bothriocephalus latus. Diagnosis of intestinal cestodes. Treatment.

B. Visceral Cestodes.

1. Cysticercus cellulosæ. Due to ingestion of ova, or in subject of tænia solium; location and number of larvæ determine symptoms: 1, general; 2, cerebrospinal; 3, ocular. Difficulty of diagnosis.
2. Echinococcus Disease. Larvæ of tænia echinococcus of dog, found in hog, ox, sheep and horse. Development; ingestion of embryo, digestion of shell, burrowing of embryo into peritoneal cavity, muscles, portal or systemic vessels; at destination embryo forms cysts, parent, daughter, etc.; differs from ovum and larva of tænia solium. Contents of cysts, changes in cyst. Distribution in body: (a) Echinococcus of Liver. Large or small cysts, in right or left lobe. Symptoms and physical signs. Suppuration of cyst. Perforation. (b) Echinococcus of Respiratory System. Frequency. Echinococcus of pleura, of lung; symptoms and physical signs of each. (c) Echinococcus of Kidneys. (d) Echinococcus of Nervous System. (e) Multilocular Echinococcus.

Marriages

David B. Fields, M.D., to Miss Nora Blaney, both of Weaverville, Cal., October 7.

Harry Goldberg, M.D., to Miss Bertha Krieger, both of Baltimore, October 8.

Howard B. Cressman, M.D., to Miss Marie L. Haas, both of Media, Pa., October 7.

Jewett V. Reed, M.D., Indianapolis, to Miss Iva Hill of Marion, Ind., October 6.

John Hagan, M.D., Bisbee, Ariz., to Miss Percy Murphy, of Prescott, Ariz., October 8.

Clarence W. Page, M.D., to Miss Julia Phillips, both of Berkeley, Cal., October 8.

Marion L. Klinefelter, M.D., to Miss Mary M. Gildea, both of St. Louis, September 26.

George M. Ragsdale, M.D., to Miss Ruth Curtright, both of Paris, Mo., September 22.

John Henry Boyles, M.D., to Miss Ruth Lee Sterne, both of Greensboro, N. C., October 7.

Ernest Franklin Smith, M.D., to Miss Lydia Price, both of Centerville, Md., October 1.

Albert B. Tonkin, M.D., Riverton, Wyo., to Miss Cora Nicholson of Boulder, Colo., October 7.

Charles E. Little, M.D., to Miss Jessie Ruble, both of Haydensville, Ohio, September 30.

John William Wilson, M.D., Orrville, Ala., to Miss Helen Meredith, of Eutaw, Ala., October 1.

Charles H. P. Slaughter, M.D., to Miss Caroline K. McCoach, both of Philadelphia, October 15.

Fayette Watt Birtch, M.D., San Francisco, to Miss Frances Caldwell of Oakland, Cal., September 30.

George Dickinson, M.D., Wrangel, Alaska, to Beatrice Pearce, M.D., of Waukegan, Ill., recently.

Robert M. Murray, M.D., to Mrs. Mattie Montgomery, both of Trezevant, Tenn., in Memphis, October 5.

Stephen James O'Brien, M.D., to Miss Clara Eletha Crawford, both of Grand Marais, Mich., October 15.

Martin L. Gray, M.D., La Porte, Iowa, to Miss Laura Williamson of Mount Carroll, Ill., September 30.

George Morris Piersol, M.D., Philadelphia, to Miss Helen Hodges Delano of Marion, Mass., September 26.

William Armistead Gills, M.D., Richmond, Va., to Miss Virginia P. Thornton, of Norfolk, Va., October 6.

Fayette A. Sinclair, M.D., Poquoson, Va., to Miss Bertie Henneberger of Hagerstown, Md., September 30.

Charles E. Doerr, Medical Reserve Corps, U. S. Army, to Miss Elizabeth Allison of Cincinnati, September 30.

Leonard W. Ely, M.D., to Miss Sally Frothingham Akers, both of New York City, at Hollis, Maine, September 22.

Herman Vedder Mynderse, M.D., Schenectady, N. Y., to Miss Helen Louise Douw of Poughkeepsie, N. Y., October 1.

John W. Devine, M.D., Lynchburg, Va., to Miss Bessie May Files, of Augusta County, Va., at Clifton Forge, Va., October 6.

Deaths

Turner Anderson, M.D. University of Louisville, 1863; a member of the Kentucky State Medical Association and of the Mississippi Valley Medical Association; one of the most widely known practitioners of Kentucky; surgeon of the Twenty-eighth Kentucky Volunteer Infantry during the Civil War; professor of obstetrics in the Kentucky School of Medicine and Louisville Medical College; and professor of abdominal surgery in Louisville University; honorary professor of medicine in the University of Louisville; died at St. Mary and Elizabeth Hospital in that city, October 13, from heart disease, aged 66. At a meeting of the faculty of the Medical Department of the University of Louisville, held October 14, resolutions of regret and condolence were unanimously adopted.

John Eleazer Parson, M.D. Harvard Medical School, 1863; a member of the Massachusetts Medical Society; a medical officer during the Civil War; and later assistant surgeon of the Twenty-eighth Massachusetts Volunteer Infantry; and then acting assistant surgeon and acting passed assistant surgeon, U. S. Navy; for many years a member of the school committee of Ayer, Mass.; and trustee of the public library; died at his home, October 7, from brain disease, aged 72.

James S. King, M.D. Long Island College Hospital, Brooklyn, 1878; a member of the Medical Society of the State of New York; surgeon to the N. Y. Naval Reserve and one of the founders of Bushwick Hospital, Brooklyn; died at his home in that city, October 9, aged 51.

Augustus Salley Hydrick, M.D. University of South Carolina, Columbia, 1873; a member of the South Carolina Medical Association; alderman of Orangeburg, S. C., from 1896 to 1904; school trustee; died at his home from cerebral hemorrhage, October 9, aged 58.

James W. Coleman, M.D. Jefferson Medical College, 1893; a member of the American Medical Association; territorial health officer of Arizona, and formerly president of the Arizona Territorial Medical Association; died at his home in Tucson, October 4, aged 43.

Stephen G. Sanders, M.D. Atlanta (Ga.) Medical College, 1855; a member of the Kentucky State Medical Association, and one of the oldest practitioners of the mountain district of Kentucky; died from heart disease at his home in Booneville, October 3.

John Aycrigg Hegeman, M.D. College of Physicians and Surgeons, New York, 1879; a practitioner of Passaic, N. J., until 1905, when he moved to New York City; fell from a window of his apartment, September 23, and was instantly killed, aged 56.

William H. McKinnon, M.D. Bellevue Hospital Medical College, 1870; of Red Springs, N. C.; a member of the Medical Society of the State of North Carolina; died at St. Luke's Hospital, Fayetteville, N. C., September 29, from nephritis, aged 65.

Frank Campbell, M.D. Medical College of Indiana, 1895; a member of the American Medical Association and of the Shelby County (Ind.) U. S. pension examining board; died suddenly at his home in Shelbyville, October 8, from heart disease, aged 39.

John E. Summers, M.D., colonel Medical Corps, U. S. Army, retired; University of Pennsylvania, 1846; of Omaha, Neb.; who was advanced to the rank of brigadier-general in 1904; died October 1, in Atlantic City, N. J., aged 86.

Clarence Bulwer Cooke, M.D. Philadelphia University of Medicine and Surgery, 1867; for 18 years a practitioner of New Britain, Conn.; died at his home in Baltic, Conn., September 27, from pneumonia, aged 65.

James M. Taylor, M.D. Vanderbilt University, Nashville, 1889; of Ruleville, Miss.; a member of the Mississippi State Medical Association; was shot and instantly killed in an affray at Ruleville, September 28, aged 47.

Adelbert L. Fuqua, M.D. University of Nashville, 1868; of Donelson, Tenn.; a member of the Tennessee State Medical Association; a Confederate veteran; died at an infirmary in Nashville, September 27, aged 66.

George Russell Fisher, M.D. Bellevue Hospital Medical College, 1874; for several years a member of the staff of the governor of Rhode Island; died in his apartments in Olneyville, R. I., September 30, aged 55.

Edward L. Watts, M.D. Kentucky School of Medicine, Louisville, 1891; a member of the American Medical Association;

was found dead from heart disease, near his home in Triumph, Ill., October 14, aged 44.

Leonard M. Wilson, M.D. Hospital College of Medicine, Louisville, 1907; a member of the Kentucky State Medical Association; died recently at his home in Minerva, Ky., from typhoid fever, aged 29.

Henry F. Kattenhorn, M.D. Medical College of Ohio, Cincinnati, 1891; a member of the American Medical Association; died at his home in Walnut Hill, Cincinnati, October 3, from pneumonia, aged 39.

Fred Russell Chaney, M.D. University of Oregon, Portland, 1907; of Valdez, Alaska; died from the results of a fall while attempting to scale a mountain peak, near Valdez glacier, September 10, aged 23.

T. Dinsmore Ferguson, M.D. University of Tennessee, Nashville, 1884; a member of the American Medical Association; died at his home in Colfax, Wash., from heart disease, October 2, aged 52.

Elton S. Rich, M.D. New York University, 1886; formerly a member of the American Medical Association; died suddenly at his office in Kennedy, N. Y., October 7, from heart disease, aged 54.

Lassar Stern, M.D. University of Erlangen, Germany, 1852; one of the earliest members of the attending staff of the German Hospital, New York City; died at his home, October 1.

Hamilton Moore Weedon, M.D. Albany (N. Y.) Medical College, 1855; for more than 40 years a practitioner of Eufaula, Ala.; died at his home in that city, September 10, aged 74.

Otto E. Haering, M.D. Rush Medical College, 1886; a member of the Illinois State Medical Society; died at his home in Bloomington, October 10, from tuberculosis, aged 47.

Frederick Arnold Herring (license, Ind., years of practice, 1897); for more than fifty years an eclectic practitioner of Goshen, Ind.; died at his home October 1, aged 95.

Frederick Sale, M.D. Hospital College of Medicine, Louisville, 1882; a member of the Medical Society of Virginia; died at his home in Bedford City, October 3, aged 52.

Winona May Stout, M.D. Kansas Medical College, Topeka, 1906; of Topeka; a member of the local board of health; died suddenly in Denver, September 30.

John W. Whitney, M.D. Jefferson Medical College, 1852; dean of the medical profession of Lexington, Ky.; died at his home, September 29, aged 78.

Charles N. Dartt, M.D. Kansas City (Mo.) Medical College, 1882; of Kansas City; died at the home of his daughter, in Kansas City, September 28.

Elijah D. Kanouse, M.D. Cleveland Homeopathic Medical College, 1863; died from pneumonia at his home in Appleton, Wis., October 7, aged 89.

William Gordon Barton, M.D. New York University, 1858; a distinguished linguist; died at his home in Pubnico Harbor, N. S., recently, aged 88.

Austin Best, M.D. Jefferson Medical College, 1878; died at his home in Harrisburg, Pa., September 25, from cerebral hemorrhage, aged 57.

William C. Hughes, M.D. Medical College of Ohio, Cincinnati, 1870; died recently at his home in Cleves, Ohio, from acute gastritis, aged 59.

John Cramer Shiland, M.D. Albany (N. Y.) Medical College, 1878; died at his home in Watervliet, N. Y., September 24, aged 53.

John J. Clement, M.D. Toronto University; died at his home in Sarnia, Ont., September 18, from cerebral hemorrhage, aged 60.

Sharps Field, M.D. Homeopathic Medical College of Missouri, St. Louis, 1860; died at his home in Hillsboro, Ill., September 28.

James R. Rucker, M.D. Tulane University, New Orleans, 1875; died recently at his home in Temple, Texas, aged 59.

Theodore Fisk (license, Mo., 1883): died at his home in Mooresville, Mo., October 2, from cardiac dropsy, aged 74.

G. W. Zimmerman, M.D. Medical College of Ohio, Cincinnati, 1868; died recently at his home in Woodland, Cal.

Ernest S. S. Root, M.D. Eclectic Medical Institute, Cincinnati, 1878; died recently at his home in Big Oak Flat, Cal.

Albert Andrew Herschler, M.D. University of Buffalo, 1906; died at his home in Buffalo, N. Y., October 1, aged 24.

Edwin Arthur Kelley, M.D. Medical College of Ohio, Cincinnati, 1878; died recently at Agnew, Cal.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

Indiana Board of Medical Registration and Examination, Room 120, State House, Indianapolis, October 27. Secretary, Dr. W. T. Gott, Room 120, State House, Indianapolis.

Nevada State Board of Medical Examiners, Carson City, November 2. Secretary, Dr. S. L. Lee, Carson City.

Louisiana Homeopathic Medical Board, 919 St. Charles street, New Orleans, November 2. Secretary, Dr. Gayle Aiken, 1102 St. Charles avenue, New Orleans.

Nebraska State Board of Health, Capitol Bldg., Lincoln, November 4-5. Secretary, Dr. E. J. C. Sward, Oakland.

Oklahoma State Board of Medical Examiners, Muskogee, November 6. Secretary, Dr. F. P. Davis, Enid.

Rhode Island State Board of Health, State House, Providence, November 5-6. Secretary, Dr. Gardner T. Swarts, 315 State House, Providence.

Texas State Board of Medical Examiners, Houston, November 10. Secretary, Dr. M. E. Daniel, Honey Grove.

Connecticut Homeopathic Medical Board, New Haven, November 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand avenue, New Haven.

Connecticut Eclectic Medical Board, Hotel Garde, New Haven, November 10. Secretary, Dr. T. S. Dodge, Torrington.

Connecticut State Medical Examining Board, City Hall, New Haven, November 10-11. Secretary, Dr. Charles A. Tuttle, 196 York street, New Haven.

Maine Board of Registration of Medicine, Preble House, Portland, November 10-11. Secretary, Dr. William J. Maybury, Saco.

Florida Regular Board of Medical Examiners, Jacksonville, November 11-12. Dr. J. D. Fernandez, Jacksonville.

West Virginia State Board of Health, Wheeling, November 10-12 Secretary, Dr. H. A. Barbee, Point Pleasant.

Missouri State Board of Health, Kansas City, November 23-25. Secretary, Dr. J. A. B. Adcock, Warrensburg.

Massachusetts Board of Registration in Medicine, State House, Boston, November 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

The Teaching of Modern Anatomy.

At the recent meeting of the British Medical Association, in a discussion on the teaching of anatomy, Christopher Addison called attention to the just complaints that experts are prone to exaggerate the importance of their own specialties, and said that, although anatomy was an intrinsic part of medical education, teachers should bear in mind the great mass of information which the student must acquire in the other subjects of the curriculum. He showed how anatomy peculiarly lends itself to the vicious system of cramming which makes the knowledge thus gained less serviceable and lasting as well as of less educational value. The student should be guarded against unnecessary detail, and more attention should be paid to the function of the part studied in its relation to health and disease. Addison stated that the most lasting, valuable and accurate knowledge was that obtained by critical examinations, on one's own initiative, and that a real familiarity with the parts of the body could best be acquired by the student by the intelligent dissection of those parts for himself.

He suggests that the muscles be studied in groups, rather than individually, and that, in the study of the vascular and nervous systems and the viscera, the teacher should call particular attention to their pathologic and clinical relations. Special attention was directed to the value of preliminary training in physics, chemistry and biology in the statement: "It is a striking and significant fact that the preliminary medical sciences enter so largely into many of the great medical discoveries of our time in bacteriology, pathologic chemistry, malaria, yellow fever, Malta fever, sleeping sickness and others." And in the teaching of anatomy much valuable time is saved and a much better knowledge of anatomy is secured by the student if he begins with an acquaintance with elementary animal and vegetable physiology and structure such as is obtained in the preliminary course in biology.

Kentucky July and August Reports.

Dr. J. N. McCormack, secretary of the State Board of Health of Kentucky, reports the written examination held at Louisville, July 7-10, and Aug. 3-5, 1908. The number of subjects examined in was 10; percentage required to pass, 70, and not less than 60 in any one branch.

At the examination held July 7-10 the total number of candidates examined was 61, of whom 37 passed and 24 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Louisville Med. Coll.	(1907)	73, 87
Kentucky School of Med.	(1908)	75, 76, 81, 81, 82, 83, 86, 87, 88, 89
University of Louisville.	(1908)	72, 73, 77, 78, 81, 82, 82, 83, 87, 88
University of Maryland	(1907)	76
University of Michigan	(1908)	73
College of P. and S., New York	(1905)	81
Medical Coll. of Ohio	(1907) 84; (1908)	79, 88
Eclectic Med. Inst., Cincinnati	(1908)	77, 77
Pulte Med. Coll.	(1907)	79
Meharry Med. Coll.	(1907)	71
University of Tennessee	(1907)	80
Vanderbilt University	(1882) 73; (1908)	71, 71, 75

FAILED.

College.	Year Grad.	Per Cent.
University of Louisville,	(1908)	54, 58, 58, 60, 61, 63, 64, 67, 69, 70,* 70,* 76,* 77.*
Kentucky School of Med.	(1908)	57, 60
Louisville National Med. Coll.	(1908)	46, 65
Hospital Coll. of Med., Louisville	(1907)	61†
Eclectic Med. Inst., Cincinnati	(1908)	67
Meharry Med. Coll.	(1908)	39, 50, 55
University of Tennessee	(1908)	50
Trinity College, Dublin, Ireland	(1854)	12

At the examination held August 3-5, the total number of candidates examined was 80, of whom 51 passed and 29 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Illinois Med. Coll.	(1908)	81
Louisville and Hosp. Med. Coll.,	(1908)	70, 70, 71, 73, 73, 75, 75, 76, 77, 77, 77, 77, 77, 78, 79, 80, 81, 82, 82, 82, 83, 83, 83, 83, 84, 85, 86, 87, 87, 88, 89.
University of Louisville,	(1905) 78; (1907) 87; (1908)	71, 74, 74, 77, 77, 77, 77, 77, 84.
Louisville Med. Coll.	(1907)	71, 85
Hospital Coll. of Med., Louisville	(1907)	90
Kentucky School of Med.	(1907) 82; (1908)	82
University of Michigan	(1908)	80
Miami Med. Coll.	(1908)	82
Eclectic Med. Inst., Cincinnati	(1908)	76

FAILED.

College.	Year Grad.	Per Cent.
University of Louisville,	(1895) 71;* (1908)	50, 57, 60,** 63,** 64, 67, 68.**
Louisville and Hosp. Med. Coll.,	(1908)	55, 55, 56, 57, 57, 57, 59, 68, 68, 69, 69, 70,* 70,* 75.*
Louisville National Med. Coll.	(1908)	51,** 69**
Kentucky School of Med.	(1908)	59
Barnes Med. Coll.	(1904)	70* **
University of Nashville	(1908)	70*
Meharry Med. Coll.	(1908)	58, 69

* Failed to make 60 in one or more branches.

** Second examination.

† Third examination.

Book Notices

Friedberger and Fröhner's Veterinary Pathology. Vols. I and II. Translated by M. H. Hayes, F.R.C.V.S., Author of "Points of the Horse," etc. With notes on Bacteriology by Professor R. Tanner Hewlett, M.D., F.R.C.P., M.R.C.S., D.P.H. Sixth Edition. Cloth. Price, $8.00 per set. Chicago: W. T. Keener & Co., 1908.

The more we investigate diseases in lower animals the more closely we find them related to diseases in man. Many contagious diseases are suspected of being transmitted by domestic animals. Animal parasites commonly have for host during part of their life cycle some lower animal; and possibly certain acute diseases of unknown etiology are perpetuated by existence in animal hosts at times when human hosts are not available. Recent developments in regard to transmission of disease by insects, and also the current investigations on tumor biology which are being carried out with tumors in the lower animals, have caused pathologists to take a more active interest in veterinary medicine than ever before, and constantly to need books of reference on this subject. The book at hand is a good translation of a standard text-book on the pathology of domestic mammals, and undoubtedly has much merit for the use of veterinary students, as attested by the number of editions it has passed through both in German and in English. Its value as a work of reference for use by students and investigators who are not veterinarians, however, would be increased many times if it were provided with a well-selected bibliography. A reference-book at the best serves chiefly an an explanatory index and a critical review of progress in the lines it covers, and such a work in veterinary pathology would be welcomed. The entire absence of illustrations is also a serious defect in this work, which is, in spite of these drawbacks, a valuable compend of the subject.

Nuova Classificazione dei Delinquenti. By Dott. José Ingegnieros, Professor all' Università di Buenos Aires. Paper. Pp. 48. Milano-Palermo-Napoli: Remo Sandron, 1907.

This book is an exposition of the modern materialistic theory of criminality, which rejects the conception of free will and responsibility. Its psychopathologic classification divides criminals into those with moral anomalies (dysthymia), including the morally insane, the habitual criminals and the criminaloids; those with intellectual deficiencies (dysnossia), the congenitally defective and the criminals with acquired insanity, the transitory criminals from intoxication or toxic delirium; those with volitional defects (dysbulia), including the impulsive, epileptic, the alcoholic and the occasional passional criminals. There appears to be little that is actually new in this classification; the most striking feature of the work is the logical application of it made by Dr. Ingegnieros in his ideas of the application of repressive measures. The maximum of these, according to his program, should be applied to the congenital and acquired incurable forms, to the morally insane, the insane with fixed criminal tendencies, the criminal epileptics, chronic alcoholic cases, and those with persistent incurable criminal tendencies. This plan, carried out logically, would rid society of all its troublesome incurables with criminal tendencies. Dr. Ingegnieros, however, admits that positivist criminologists are not unanimous as regards the infliction of the death penalty.

Die Panik im Kriege. By Oberst a. D. Emil Pfülf. Paper. Pp. 71. Price 30 cts. München: Verlag der Aerztlichen Rundschau, 1908.

The psychology of masses of men is a subject that has at least a collateral medical interest, and an army is, in a sense, a crowd, though an organized and disciplined one. Colonel Pfülf shows by numerous historical instances that even the most thorough training to meet the varied exigencies of war does not always prevent panics, even in the best disciplined troops. There are, it is true, fewer panics in disciplined or veteran armies, even when the stimulus of success is wanting; but there are occasions when, under special mental and physical stress, especially when confidence in their leaders is lacking, that the most experienced soldiers may give way. The commanders as well as the men may be *demoralized*, as witness the striking instance of the Russian fleet in the North Sea, 20,000 sea miles from any opposing forces. The remedy he sees only in a rigid discipline, confidence in the commanders and the cause, a building up of a sound nervous organization and of the better moral qualities of the soldier, not in brutalizing him or making him a mere reflex machine. The brochure is rather interesting as a collection of historical instances of notable panics, and what one might call moral paralysis in military operations, discussed by an expert. It will take its place in the rather limited special literature of what is in many ways an important subject.

Pulsating Exophthalmos. By George E. de Schweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania, and Thomas B. Holloway, M.D., Instructor in Ophthalmology in the University of Pennsylvania. Cloth. Pp. 124. Price, $2.00. Philadelphia: W. B. Saunders Co., 1908.

This monograph is an elaboration of a paper read before the College of Physicians, *Philadelphia*, a year ago. The literature on the subject is thoroughly reviewed and an extensive table is embodied in the text, giving a study of 80 recent cases from 1900 to 1907. This table gives the name of the reporter, the reference, the eye, sex, age and symptoms, treatment and conditions following *treatment*. The text proper consists of a close analysis of 69 undoubted cases. These are discussed as to etiology, symptoms, pathogenesis diagnosis and differential diagnosis, prognosis and treatment. Under the last heading are included descriptions of the various orbital operations employed in these cases with various methods of treatment such as ligation and compression of the carotids. This essay deals essentially with the practical side of pulsating exophthalmos, giving the reader a grasp of the entire situation. It should be a great aid to all of us in dealing with this difficult condition.

Points of Practice in Maladies of the Heart. By James Sawyer, Knt., M.D. Lond., F.R.C.P., F.R.S., Ed., F. S. A., Consulting Physician to Queen's College. Cloth. Pp. 96. Birmingham, Eng.: Cornish Brothers, 1908.

The title of these three lectures describes their character. Maladies of the heart are not described *systematically* nor is any one malady discussed with any degree of fulness. The first lecture is devoted to a brief and rather superficial history of our knowledge of heart diseases and methods of investigating them. In the second the signs elicited by physical examination are commented on. Considerable space is devoted to the visible signs of pericardial adhesions and the way of best observing them. Sawyer has seen that those suffering from chronic heart disease with feeble ventricular contractions can hold their breath while lying in bed longer than those in health: and he illustrates how this may be used as a sign or test of weakness of the heart's muscle. In the first part of the third lecture a general classification of heart disorders is described and in the remainder points in the treatment thereof are considered.

ABDOMINAL TUBERCULOSIS. By A. Earnest Maylard, M.B., B.S. (Lond.). Surgeon to the Victoria Infirmary, Glasgow. Pp. 360, with illustrations. Cloth. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1908.

The tendency of English surgeons toward the monograph form of presenting a subject is one which should be more frequently followed. The present monograph on the very important subject of abdominal tuberculosis covers the field in a most thorough manner. Maylard has drawn largely on the London museums for his illustrations of specimens. Tuberculosis of the various abdominal viscera are considered in a systematic manner. A number of typical cases collected from the records of the Victoria Infirmary, Glasgow, and the general literature are included in each chapter and add to the interest. It is to be regretted that tuberculosis of the kidney was not included in the monograph. The closing chapter by Dr. W. K. Hunter on the general and prophylactic treatment does not devote sufficient space to the value of the opsonic index as a means of diagnosis nor is the description of the use of vaccines as thorough as the present state of the subject deserves.

THE TEACHINGS OF THOMAS HENRY HUXLEY. By Irving Wilson Voorhees, M.S., M.D. Cloth. Pp. 85. New York: Broadway Pub. Co., 1907.

This is a small book—only 85 pages—but large enough to contain a pretty fair analysis of the views of Huxley on the various subjects in which he became interested during his busy life. While he is not so well known for what he did in medicine, he left his mark even here. When only 19 he described the microscopic anatomy of a layer of cells in the hair follicle, which is still known as Huxley's layer. It is to be regretted that he wandered off into other sciences, for one with so broad a mind and such a love of research and investigation would surely have accomplished much for medicine if he had continued in it. Dr. Voorhees has given us, as it were, an abstract, or better, an analysis, of Huxley's views on biology, theology, education, morals, sociology, etc. To him who is acquainted with Huxley, his work and his writings, this little book will be a pleasant review to call to mind what may have been practically forgotten. To him who has never read Huxley's work, it will be a stimulus to do so.

HAY-FEVER, HAY-ASTHMA, ITS CAUSES, DIAGNOSIS AND TREATMENT. By William Lloyd, Surgeon-in-charge of the Nose, Ear and Throat Department, Kensington General Hospital. Cloth. Pp. 98, with illustrations. Price $1.25. London: H. J. Glaisher, 1908.

While this is a book of less than 100 pages, it contains a good survey of our present knowledge of hay fever. The etiology, pathology, etc., are treated historically in their respective chapters, the author showing a very complete knowledge of the literature on the subject. American readers, however, will be surprised to learn that "in America the illness stops with most patients about the middle of July, but with a few it continues to the middle or end of September or even longer." We fear that there are few cases in which the illness stops at the middle of July; in the majority it continues "to the middle or end of September, or even longer." The chapter devoted to treatment contains the various methods of treatment now in use, few of which will be new to American practitioners. Dr. Lloyd has had considerable success with the use of strong coffee given hot on an empty stomach, without sugar or milk. Given after a meal, however, Dr. Lloyd says that it is liable to be more harmful than otherwise. A large number of illustrative case reports are given, which are very instructive.

Society Proceedings

AMERICAN HOSPITAL ASSOCIATION.

Tenth Annual Meeting, held at Toronto, Oct. 1-2, 1908.

The President, DR. S. S. GOLDWATER, New York City, in the Chair.

President's Address.

DR. S. S. GOLDWATER, Mount Sinai Hospital, New York: The membership has doubled in a single year. The Association gives to each of its members an opportunity to come into contact with the guiding minds of about 400 institutions. The organization could be modified to provide for a central body and a series of working sections, as, for instance, a section on general administration, a section on medical administration, and one on external administration.

Address of Welcome.

Acting Mayor Dr. Harrison, Toronto, welcomed the delegates and visitors and suggested that similar associations be formed in every state and province which would send representatives to the general sessions.

Training Schools for Nurses.

The problem of training nurses and the requirements and the course of training occupied the entire afternoon session of the opening day. Several papers were contributed on this subject, and at the conclusion of the discussion Dr. A. S. Kavanagh, of the Methodist Episcopal Hospital, Brooklyn, presented the following resolution:

> *Resolved*, That a committee be appointed consisting of seven members of this organization, two nurses, two physicians and two laymen and the president, whose duty it shall be to seek information from leading physicians, surgeons, nurses and training-school committees, and other available sources, bearing on the curriculum and length of the course of training of our nurses; to consider to what extent hospitals should undertake to prepare a class of hospital nurses or assistants and to report on the advisability of cooperating with such associations as the Young Women's Christian Association in the work; to present a model curriculum containing only such subjects as they think necessary for the proper training of a regular nurse or a nurse helper, and to report at the next annual meeting of the Association.

The sum of $500 was set aside toward the expenses of this committee.

A Layman's View of Hospital Work.

MR. JOHN ROSS ROBERTSON, chairman of the trustees of the Hospital for Sick Children, Toronto: During the past thirty years hundreds of thousands of dollars have been received from voluntary subscriptions for the Hospital for Sick Children, and these came from the many and in small sums rather than from the monied classes, although the hospital once received a single donation of $10,000. In my opinion, the millionaire and his money are not easily parted.

Some Scientific Aspects of Hospital Management.

DR. JOHN A. HORNSBY, Michael Reese Hospital, Chicago: The two important factors in the hospital world are the doctor and the patient, nurses and attendants being at the hands of the physician.

Applications for Membership.

The membership committee reported that 238 applications had been received during the course of the year, of which 65 were from trustees and members of hospital boards. The State of New York headed the list, with 65 applications, while Canada was credited with 25. The membership is approaching the 500 mark.

The Private Hospital as a Municipal Agent.

DR. D. C. POTTER, chief of the charitable division, department of finance, New York City: My experience in New York City gives me little faith in the average reformer. I consider that this individual is always on hand to turn the grafter out in order that he may get the job for himself. There is woe in that hospital where this reformer establishes himself to administer its affairs economically. For years Canada has sent us a large proportion of all the trained nurses educated in the training schools of New York City. I consider them splendid types of young womanhood; they become the best of good nurses. I suggest that Canada might send a few reformers.

Control of Infectious and Contagious Diseases.

Mr. John Ross Robertson, Toronto: Since 1892 infection brought into the institution by people visiting the patients has cost the Hospital for Sick Children, Toronto, between $15,000 and $20,000.

Several of the delegates corroborated this, stating they had had similar experiences in their institutions.

Methods of Teaching.

The report of the subcommittee *on medical organization* and medical education stated that the long-distance principle of giving instructions had been replaced by teaching at the bedside of patients and in the surgery.

Election of Officers.

The next conference will be held in Washington, D. C., Sept. 22-29, 1909, with the following officers: President, Dr. John M. Peters, Rhode Island Hospital, Providence, R. I.; vice-presidents, Dr. Arthur A. Aucker, City and County Hospital, St. Paul, Minn; Dr. J. N. E. Brown, superintendent, Toronto General Hospital, Toronto; Miss Emma Blunderson, New England Baptist Hospital, Boston; secretary, Dr. W. L. Babcock, Grace Hospital, Detroit; treasurer, Dr. Asa Bacon, Presbyterian Hospital, Chicago.

Dr. Donald McIntosh, of the Western Infirmary, Glasgow, Scotland, who is making a tour of the hospitals of Canada and the United States, was made an honorary member of the Association.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington, D. C., Sept. 28 to Oct. 3, 1908.

(Continued from page 1370.)

SECTION I.—PATHOLOGY AND BACTERIOLOGY.

Tuberculo-Toxoidin and Immunization Serum.

Dr. T. Ishigami, Osaka, Japan, read a paper on this subject, in which he said that, after investigation for more than ten years, he has succeeded in getting two remedies of comparatively great efficacy and free from any detrimental reaction:

The one is a chemical preparation from tubercle bacilli and is applicable to incipient and feverless patients. The other is an immunization serum and is applicable chiefly to patients in an advanced stage of the disease. Tuberculo-toxoidin, the first, is a preparation made by chemically dissolving the tubercle bacilli and transforming the toxic property, thus getting rid of the reaction which is the common detriment of all the other preparations from tubercle bacilli. From my experience and the reports of other practitioners who tried the preparation the following conclusions may be drawn: (1) By injecting the preparation in a gradually increasing dose to feverless tuberculous patients, almost every one of them increases in bodily weight and vital capacity and becomes conscious of the alleviation of the symptoms. (2) The bacilli in the sputum are gradually broken up and agglutinated and finally disappear, although in some rare cases a small amount of expectoration containing bacilli is found for a long time. (3) The quantity of opsonin in the patients' blood is found to increase gradually by the injection treatment.

Immunity Production by Inoculation of Increasing Numbers of Bacteria.

Prof. M. A. Barber, University of Kansas, Dr. W. W. Williams and Dr. Gerald B. Webb, Colorado Springs, contributed a joint paper on this subject:

The possibility of producing freedom from disease or immunity by the inoculation of living organisms till now only has been accomplished in few diseases, chiefly smallpox. The virus of this disease, weakened by passage through the cow, can safely be inoculated into human beings, resulting in protection against smallpox. The human race possesses in a varying amount a natural immunity against *tuberculosis*; were it not so the race would long ago have become extinct. Artificial protection against tuberculosis has never yet been achieved, but we believe that it is a possibility, inasmuch as it is now possible, by protective *inoculation of* living organisms of the human type, to protect cattle from tuberculosis. All conceivable methods of weakening the tubercle bacillus, so that it can be safely inoculated for the production *of immunity* up to this time have failed. Trudeau has shown it possible to produce a certain amount of immunity in guinea-pigs by the use of living bacteria. Dead tubercle bacilli and their products, known as vaccines and tuberculins, when used for inoculations have failed to produce lasting immunity, although of distinct value in the treatment of tuberculosis. Satisfactory immunity to tuberculosis has only been obtained experimentally by the use of living bacilli. Any successful method of producing freedom from tuberculosis must be sought through the use of the living germ. Realizing the hitherto almost futile attempts, we were led to the experiments of attempting the production of immunity by increasing numbers of bacteria, by beginning with the inoculation of one living germ. The idea was first carried out with mice and anthrax germs. It has been found that one twenty-millionth part of a drop of broth in which anthrax germs were growing, if inoculated into a mouse, would kill the little animal in forty-eight hours. This knowledge renders it evident how exceedingly vulnerable mice are to the disease. The anthrax germ grows in threads. One short thread was injected under the skin of a mouse, and at intervals of a few days increasing numbers of threads up to several hundreds were inoculated, and failed to produce any signs of disease. One mouse, receiving 250 threads without any previous inoculation, died of anthrax in a few days. These experiments were conducted on a series of about thirty mice. Encouraged by these results, guinea-pigs, animals easily rendered victims of tuberculosis, were inoculated in a similar manner with the germ of tuberculosis. About forty guinea-pigs have received inoculations, beginning with one live tubercle bacillus and increasing to thousands; so far none has become a victim of tuberculosis. To ascertain any therapeutic value of this theory, rabbits rendered tuberculous by feeding on living bacilli are undergoing similar inoculation for their cure.

Immunization Against Tuberculosis.

Drs. A. Calmette and C. Guérin, Pasteur Institute, Lille: We have shown by previous papers that animals vaccinated by this method continue for about three months to *harbor in* their mesenteric glands living virulent bacilli capable of *infecting* guinea-pigs injected with a triturate prepared from these glands. Later the animals get rid of the bacilli, which are no longer found after an interval of four to six months. If at this time they are tested by means of intravenous inoculations with a strong dose of virulent bovine bacilli (5 milligrams) at the same time with control animals of the same age, it is found that the controls always develop an excessively rapid granular tuberculosis which proves fatal in from four to six weeks, while the vaccinated animals maintain every appearance of perfect health for at least eight months. Then all at once their immunity disappears, as shown by the fact that some of them suddenly present tuberculous lesions in various locations; and if those which do *not* as yet show any lesions are killed it is found that the mediastinal *and* bronchial glands always contain living bacilli that are virulent for *the* guinea-pig, even though there may be *no other* microscopic tuberculous lesions. It is evident, therefore, *that* bacilli introduced into the veins, even in vaccinated animals, are *not absorbed*, and this fact explains why cattle *vaccinated by von* Behring's method continue for many months to harbor living virulent bacilli in their bronchial and mediastinal glands. So *long* as these animals continue to harbor bacilli they *can not* be considered to be really vaccinated. They merely possess a special resistance against fresh tuberculous infections, a resistance which is in every respect comparable to that which Robert *Koch first observed in tuberculous* guinea-pigs that had received a subcutaneous injection of a fresh dose of virus. The second inoculation produces a local abscess which soon empties itself, and the ulceration *which follows* heals, while the first infection continues to produce its effect more slowly. The same resistance can be obtained by injecting healthy cattle intravenously with large doses of *tuberculin* (0 grain 0.50 of tuberculin precipitated with alcohol), two or three times at intervals of six or ten days. Animals prepared *in this* way react to the second or third injection as *if they* were tuberculous. The reaction, which is always marked, appears in such animals in five hours and disappears at the end of twelve hours. If, a few days after the last injection of tuberculin, an intravenous injection of 5 milligrams of virulent bovine bacilli is administered, and healthy control animals are simultaneously subjected to the same treatment, the controls develop a very rapid granular tuberculosis which proves fatal in from five to six weeks, while animals prepared by previous injections of tuberculin merely present slowly progressing tuberculous lesions. A local suppurative tuberculosis occurring in a consumptive improves the patient's condition and considerably increases his resistance; conversely, persons in whom pulmonary tuberculosis follows a rapid course have rarely suffered in their previous history from suppuration of glands, bones or cutaneous structures, except those persons in whom an ill-advised surgical operation may have produced a blood infection. When it is recalled that certain clinicians state that they have obtained genuine improvement in tuberculous patients by a subcutaneous inoculation of cultures of virulent bovine bacilli, or dead bacilli, or of cultures of human bacilli modified by being passed through the body of a cold-blooded animal (crocodile), these facts are calculated, to a certain extent, to justify their assertions. Such treatment is, however, to be condemned, particularly since we possess in tuberculin an equally efficient and less dangerous remedy wherewith the same object may be obtained.

Problem of Immunity in Tuberculosis.

DR. **EDWARD R. BALDWIN**, Saranac Lake, N. Y., gave a retrospect of what has been accomplished in attempts to produce artificial immunity, with mention of the problems yet unsolved:

A brief review traces the beginning of preventive inoculation experiments almost from the time of the discovery of the bacillus by Koch. These naturally began in France, stimulated by the brilliant success of Pasteur in the use of attenuated bacteria. This principle is still foremost in present-day experiments. It is not generally known that Americans were among the earliest to achieve a degree of success, especially Trudeau and de Schweinitz (1892-94). The results, on the whole, were discouraging, and attention was directed to attempts at antitoxic immunity during the period of this important discovery and the first tuberculin era. The soluble extractives of tubercle bacilli having failed to immunize animals, Koch introduced the emulsions or new tuberculins, T. R. and B. E., which were partially successful. The discovery of differences in virulence between typical human and bovine types of bacilli by Theobald Smith gave an impetus to investigations of protective inoculations in cattle; while the study of various pseudotubercle bacilli and those modified by passage through reptilians renewed the hope for a successful method for the production of artificial immunity. Simultaneous experiments on bovine protection by human bacilli were made in several countries, all resulting in a marked degree of resistance to inoculation. To overcome the objections due to the use of living human bacilli and to apply the principle of immunization to human beings was the next obvious step. Hope of this achievement was held out by von Behring at the congress at Paris in 1905. Nothing definite has been made public since then to indicate that this hope was justified, or that the immunizing and therapeutic properties of the so-called "Tulase" was superior to the bacillary preparation T. R. of Koch introduced a decade ago. Meanwhile other investigators have worked with encouraging success on cattle by spacing the inoculations at shorter or longer intervals (Pearson and Gilliland), by feeding the vaccine (Calmette and Guérin), with bacilli in capsules (Heymanns) and with those made non-virulent or modified by passage through other species of animals (Klimmer). This is the trend of research to-day for bovine immunization. The situation now is not hopeful for the establishment of a long-continued immunity by any method either in cattle or man. The specific resistance of cattle after one or two inoculations of human bacilli wanes and fails entirely after from six months to two years. Furthermore, living human bacilli may be retained in the tissues or excreted in the milk of protected cows many months after inoculation (Schroeder and Cotton; Weber and Titze).

Subcutaneous injections have been claimed to give equally as strong protection to cattle as the intravenous method, but the danger of local abscess formation must be overcome. The subtle difference between the immunizing value of living and dead bacilli needs investigation. So far no method has appeared equal in value to the inoculation of living bacilli. Repeated protective treatment must be considered necessary from the present outlook and by means of an agent equally innocuous to cattle and mankind. Protection from tuberculous infection must also be insured during a period of time needed for developing the specific resistance after the first treatment, at least in young subjects. It appears desirable also that all avenues of infection should be subjected to local immunization, as, for example, by feeding and inhalation of the protective agent. The finer mechanism of immunity requires close study to adjust the dosage and intervals. Some way of measuring immunity is needed. A correct balance must be attained between the specific response to infection which occurs during the hypersensitive phase of immunity and the ability of the tissues to assimilate the poisons without suffering harm. An immunity which tends only to arrest the infection but not to overcome it is not wholly beneficial when it creates ulceration at the portal of entrance. Hence the question whether hypersensitiveness artificially induced by protective inoculations is beneficent or otherwise must be considered. It is conceivable that an immunity without tuberculin susceptibility may be defective; on the other hand, complete tolerance to tuberculin may be associated with a high resistance to infection in cattle. The problem thus seems to be to create tolerance for the bacillus poisons or their products when undergoing lysis, and their assimilation by the tissues. Without the unknown quantity called "tolerance" no real immunity can exist; and the earlier in life this can be established with absolute safety the more resistant the adult must become. Light may come from investigations now in progress on the mechanism of anaphylaxis and its prevention. Finally, the problem of passive immunity is still a distant goal which should not be forgotten. On this rests the hope of an efficient therapy.

Experiments in Immunization Against Tuberculosis.

DR. **J. BARTEL**, Vienna: The behavior of tubercle bacilli that have entered the body through natural channels indicates a protective action on the part of the cells of organs, and especially of lymphocytes, against the infection. *In vitro* it is possible, with the aid of various organs, especially organs of a lymphocytic nature, to render living tubercle bacilli avirulent by confining them for some time within the organs at a temperature of 38 degrees. This is true of human as well as of bovine bacilli. In the course of attempts to produce immunity on this principle, animals have been successfully immunized against an infection which proved fatal to the control animals. Hence the attempt to utilize this action of the tissues of organs on the tubercle bacillus as the basis of immunization against tuberculosis has proved successful.

Tuberculosis Immunity.

DRS. **JULES COURMONT** and **A. LESIEUR**, Lyons: The reinoculation of tuberculosis at another point on the body of an animal which is already tuberculous may give a positive or a negative result. We have tested this question on the guinea-pig, using very virulent cultures of bovine bacilli with the transcutaneous method of inoculation. Favorable conditions are found in the slowness of the process, the insignificance or absence of local lesions, and the magnitude of the caseous glands. If a guinea-pig which has been tuberculous for from thirteen to twenty days is inoculated under the skin, the glandular reaction is feebler than in control animals; but these results of subcutaneous inoculation are not conclusive. The results are very clearly defined when two successive transcutaneous inoculations are made at intervals of at least two weeks. This is accomplished by simply rubbing the culture on the skin. The reinoculation is negative. No local lesion whatever is produced; the glands do not become tuberculous; they scarcely hypertrophy and are never caseous. No general effect is produced either in the spleen or elsewhere. On the other hand, if the animals are allowed to live, the first inoculation runs its normal course; it is accompanied by general lesions and ultimately kills the animal. This proves that a lesion in process of evolution prevents the evolution of a second inoculation. Our experiments suggest the following question: Is a tuberculous human being during the period of evolution immune to reinfection?

Hereditary Disposition as a Factor in the Etiology of Tuberculosis.

Dr. Johann von Szabóky, Budapest, announced the following results of statistics which he collected from 1,456 tuberculous and from 1,433 non-tuberculous cases:

1. The danger of infection should be recognized and every prophylactic measure hailed with joy, but the danger of infection should not be overestimated nor should the oft-recurring phthisiophobia be magnified by excessive precautions.
2. The importance of hereditary as well as acquired disposition must be recognized.
3. The greatest rate of percentage was shown by those with an inherited taint, about one-half on the father's and one-half on the mother's side. In only one-third of the cases tuberculosis showed itself in the parents before the birth of their children. A smaller percentage showed tuberculosis in the grandparents and in the smallest percentage of the cases tuberculosis in brothers or sisters was noted.
4. The phthisical habit can not be designated as a characteristic of tuberculosis nor of hereditary disposition, although it occurs chiefly in hereditary cases, less often in acquired ones, and almost never in non-tuberculous individuals.
5. Hereditary disposition exerted no influence on the gravity of the cases, except when the taint was inherited from various collateral relatives when the disease ran a severe course.
6. The inherited taint occurred relatively as often in older as in younger patients.
7. I was very rarely able to verify the Brehmer law.

Tuberculins and the Measure of Their Activity.

Prof. A. Calmette, Pasteur Institute, Lille: After numerous experiments I finally prepared for therapeutic use a particularly active and relatively pure tuberculin called tuberculin CL, which can be introduced intravenously into the body of a healthy animal in large doses without producing any elevation of temperature, which is quite impossible with any of the other tuberculins. As much as 50 centigrams may be injected at a single dose into the jugular vein of a healthy animal of the bovine species without producing any reaction; on the other hand, if the same injection, in the same dosage, is repeated three times, at intervals of from six to ten days, the animal is observed in from five to twelve hours after the third injection to react by a rise of 1.8 to 2.5 degrees of temperature, just as if it were tuberculous; and what is then more interesting, the animal evidently acquires a high degree of resistance to artificial tuberculous infections. The intravenous injection of a dose of virulent bovine tubercle bacilli, sufficient to produce without fail an acute fatal miliary tuberculosis in control animals, in from four to six weeks, merely produces in an animal prepared by previous injections of tuberculin, a chronic and slowly progressing tuberculosis. This tuberculin is obtained by centrifuging *in vacuo*, and at a lower temperature, entire cultures of the bovine bacillus. The product is then filtered in order to separate the bodies of the microbes, precipitated three times with alcohol and ether, redissolved in water and dialized until all the precipitants and salts have been completely eliminated. The colloid substances which remain on the dializer are then precipitated once more with alcohol and ether and dried *in vacuo*. Hence the active substance is not modified by being subjected to heat or any other chemical treatment except precipitation with alcohol and ether, and its activity can be determined by comparing it with the other tuberculins, or with a high degree of accuracy by the method of direct inoculation into the brain of a healthy guinea-pig, which was recommended by von Lingelsheim. This tuberculin CL is well borne by tuberculous patients. Physicians who have experimented with it in hospitals and sanitariums according to my directions have obtained excellent results. It does not cure tuberculosis any more than does any other tuberculin, but it evidently delays the progress of the disease and endows the organism with resistance to the infection. In order to obtain the best results, very small doses, one-thousandth of a milligram, should be employed at first, and the dose gradually increased by fractions to one- to three-thousandths, hundredths, and tenths of a milligram—administering the injections at intervals of from ten to twelve days, in order rigorously to avoid a reaction of more than one-half degree centigrade. At the same time an effort should be made to maintain a constant increase of the opsonic index over the index of the previous injection; or at least to maintain it at the same level. By measuring the patient's opsonic index it is possible to follow accurately the gradual rise of the defensive processes of the organism. An experimental study of tuberculin prepared according to the above directions shows that the substance *in vitro* possesses an affinity for the lipoids (probably identical with lecithin), which are almost constantly contained in the serum of tuberculous human beings and cattle.

Its systematic employment enables the clinician to observe the effects of tuberculin medication accurately—a thing which until recently has been exceedingly difficult or impossible.

Treatment of Pulmonary Tuberculosis with Tuberculinum Purum.

Dr. Gabrilowitsch, Halila, Finland: The process of repair under the influence of tuberculinum purum may be clearly followed clinically. Often, one gains the impression that a temporary aggravation of the local process takes place at first. The catarrhal symptoms become more pronounced and the number of bacilli increases in the expectoration. The diminished or roughened respiratory murmur becomes bronchial in character; the bronchial breathing becomes amphoric. But these symptoms disappear as rapidly as they are produced and the lung grows clear. During the treatment the general condition of the patient remains always good; there is no loss of weight and the temperature falls to normal. I have used tuberculinum purum in the sanatorium as well as in private practice, and always obtained good results. In contrast to the old tuberculin it can also be used in cases of acute or subacute tuberculosis. Tuberculinum purum is not contraindicated in the presence of complications in other organs than the lungs. Yet the most favorable results have been in chronic, uncomplicated cases. The remedy has rather the effect of lowering the temperature. Rises of temperature are extremely rare as signs of a reaction, provided the dose be increased step by step. The use of the remedy is not followed by any unpleasant subjective or objective symptoms. One-third of the 25 cases treated with tuberculinum purum belonged to the severe types of cases, and only 12 per cent. could be classed as mild. The tubercle bacilli disappeared from the expectorations in 59 per cent. of the cases treated; the bacilli diminished considerably in number in 31 per cent. The catarrhal symptoms in the lungs disappeared in 75 per cent. and were lessened in 25 per cent. The temperature became normal during the treatment in 31 per cent. and at the completion of the treatment in 62 per cent. The number of injections was 20 in 80 per cent. of the cases. The duration of treatment was from forty to sixty days. The initial dose was almost uniformly 0.01 milligram, while the terminal dose was from 100 to 200 milligrams. The patients gained in weight in 96 per cent. of the cases, the gain ranging from 1 to 6 kilos. The great advantage of tuberculinum purum lies in the fact that it is easily used in private practice, because no unexpected signs of reaction are to be feared with its use. As a diagnostic measure, tuberculinum purum may be used in doses of 0.5 milligram. In undiluted form it produces von Pirquet's cutaneous reaction in the presence of tuberculosis.

Chemistry of the Tubercle *Bacillus*.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: The tubercle bacillus has been grown in large quantity, and after having been freed from fats, waxes, and other substances soluble in alcohol and ether, is split up by an alcoholic solution of alkali into its poisonous and non-poisonous portions. The poisonous portion kills animals within a few months, when given in doses of from 75 to 100 mg. The non-poisonous portion sensitizes animals to the tubercle bacillus, but is without poisonous action. The non-poisonous portion has been used and is being used in the treatment of tuberculosis in man. However, it is too early yet to state whether or not it is better for this purpose than the old tuberculin.

Part of Enzymes in Tuberculous Lesions.

Dr. Eugene L. Opie, New York: The enzymes of tuberculous tissue have been studied in animals inoculated in the pleural cavity with tubercle bacillus. The enzyme peculiar to polynuclear leucocytes is present shortly after inoculation, but quickly diminishes in activity. A second enzyme which digests proteid in weak acid is present in abundance until caseation occurs, but subsequently disappears. The serum of the exudate which accumulates within the chest loses the power possessed by the serum of the blood to inhibit this and similar enzymes. The enzyme which acts in acid is doubtless present in the epithelioid cells of the tubercle and is similar to those of the large mononuclear cells of an inflammatory exudate which the epithelioid cells resemble. Autolysis caused by the enzymes no longer held in check, may explain the occurrence of caseation in tissue containing products of tubercle bacillus and poorly vascularized.

Report on Serologic Studies in Tuberculosis by Drs. K. Reitter and E. Stoerk (Vienna).

Dr. H. von Schrötter, Vienna: At the third medical clinic held in Vienna serologic investigations are in progress by Drs. K. Reitter and E. Stoerk, intended to enrich our knowledge of means for the early diagnosis of tuberculosis. It has been demonstrated that in the serum of tuberculous patients, etc., especially in the early stage of the disease, substances of a colloidal nature appear which are precipitated by addition of double the amount of 0.5 per cent. carbolized sodium chlorid solution (in the course of twelve hours' stay in the incubator). The addition of an ethereal extract of tubercle bacilli (extract of one-half gram bacilli in 200 c.c. carbolized salt solution) renders the precipitating reaction positive in an even higher percentage of cases. In the diagnostic application of this reaction certain diseases, probably accompanied by lipemia, must be excluded (as tumors in regressive metamorphosis, diabetes, occasionally also infections of a non-tuberculous character).

The Liver in Tuberculosis.

Dr. Joseph T. Ullom, Philadelphia: A review of the literature shows that tuberculosis of the liver has been recognized for at least seventy years, but it was considered a much rarer manifestation than is now thought to be the case. An improved microscope has shown tubercles where the naked eye could not find them. Tuberculosis manifests itself in the liver as (1) miliary tubercles; (2) solitary tubercles; (3) tuberculous cirrhosis. Amyloid disease was found in my series in 10 per cent. of cases.

Conclusions.—1. Miliary tubercles are found in the liver of the great majority of cases of chronic phthisis autopsies.

2. The infection is probably hematogenous, the bacilli being carried to the liver by the portal vein and the hepatic artery.

3. Solitary tubercle of the liver is a rare occurrence in human beings.

4. Passive congestion of the liver is found in nearly every case of pulmonary tuberculosis, while amyloid disease and fatty change are found in a relatively small number of cases.

5. From our cases we are not convinced that a fibrosis or cirrhosis of the liver due to the tubercle bacillus does occur, and are more inclined to think that the fibroses found are due to other etiologic factors.

Anatomic Characteristics of Tuberculous Infections and Their Relation to Tuberculin Reactions.

Prof. S. Arloing, Lyons, states the following question, which he seeks to answer: Does tuberculous infection always manifest itself by some more or less evident microscopic lesion?

The lesions which accompany tuberculous infection do not always represent tubercles visible to the naked eye. Owing to the differences in the virulence of the bacillus, the lesions are sometimes extremely slight and visible *only in histologic sections*. In addition, a diminution in the virulence may bring about a certain modification, which in turn causes profound changes in the reactions of the organism. Not only must the lesions be looked for with the microscope, but they no longer possess the classical histologic characteristics. Finally, there are some cases in which the bacilli spread in the organisms and exhaust themselves without leaving any trace of their passage. In such cases tuberculous infection shows itself only by the presence of bacilli in the tissues; or it may be revealed by experimental methods of diagnosis, especially tuberculin and the serum-agglutination test. Whatever may be the histologic character of the tuberculous infection, the patient at some time will react positively to these experimental tests. Hence these tests reveal the existence of bacillary infection rather than the presence of appreciable tuberculous lesions. This being the case, it is to be expected that a disagreement, often more apparent than real, should be found between the experimental diagnosis and the postmortem microscopic diagnosis. The number of these discrepancies will be diminished by seeking histologic changes, and, if necessary, the bacilli themselves, at the autopsy. In the absence of both, a positive reaction to tuberculin should nevertheless be regarded as proof that a latent infection was either extending in the organism or in process of recovery. During life, the same significance should be attributed to a positive reaction, and in most cases the results will be found to be correct. These facts show the necessity of perfecting prognosis as well as of methods of diagnosis, in order to foretell as accurately as possible the probable future of a tuberculous infection.

The Pneumonic Process in Pulmonary Tuberculosis.

Prof. Raymond Tripier, Lyons: In the lungs the morbid process in every kind of tuberculous formation is pneumonic, and we observe the simultaneous tendency to diffuse bronchopneumonic and lobular, sometimes pseudolobar, and exceptionally lobar inflammations which, if the condition becomes chronic, result in hyperplastic and sclerotic changes. If these productive phenomena which necessitate an increase of the circulation are frequently seen in pulmonary tuberculosis, in spite of the debilitated state of the organism, it is because the caseous, necrotic lesions which are produced by the obliteration of numerous blood vessels are necessarily accompanied by compensatory vascular dilatation in other portions. Hence the diffuse pneumonic process is followed by diffuse sclerosis, and if hepatization takes place, it is never gray, but red, so that its persistence produces hyperplastic pneumonia and the fibroid changes which may be regarded as cicatricial.

Incidence of Tuberculosis in Viscera.

Drs. J. George Adami and John McCrae, Montreal, gave an analysis of 1,000 consecutive autopsies in Montreal, with reference to the incidence of tuberculosis in the various organs.

Incidence of Chronic Pleurisy and Its Relationship to Tuberculosis.

Dr. A. Raymond Landry, Montreal, presented a review of 1,400 consecutive autopsies held at the Royal Victoria Hospital, Montreal, and presented statistics to show the frequency of chronic pleurisy, its most common sites, its association with diseases of the lungs, heart, other serous sacs, liver, spleen, kidney, etc. The personal and family histories of the cases were gone into particularly from the viewpoint of tuberculosis and infectious diseases. The average age of those who come to autopsy at the Royal Victoria Hospital is about 35, and as few as possible patients suffering from tuberculosis of the lungs, etc., are taken in.

The Histogenesis of Tuberculosis of Bones.

Dr. Josef Kertesz, Budapest, has made a number of experimental examinations in the pathologic institute of the Herr Hofrath Prof. Dr. Otto Pertik to clear up the question of the initial stage of tuberculosis of bone marrow, with the following results:

Tubercle bacilli introduced into the bone marrow of rabbits are quickly surrounded by polymorphous leucocytes, and they as well as a portion of the fixed connective tissue cells situated in the district invaded are destroyed within two or three days. Another portion of the fixed connective tissue cells as well as the desquamated endothelial cells of the capillaries increase amitotically. These cells as well as the young proliferated elements group themselves about the tubercle bacilli and form the epithelioidal tubercle, which is completely formed as early as the fourth day. The first tuberculous giant cells appeared on the fifth day, originating at this stage through a confluence of the augmented endothelium of the capillaries. On the seventh day lymphocytes group themselves about the tubercle, which later at this time already shows signs of caseation in its center. On the eighth day the lymphocytes penetrate the tubercle; thus originates the lymphoid tubercle. The leucocytes do not reach the neighborhood of the bacilli in their initial accumulation from the blood vessels, but rather from the septa of the neighboring bone marrow. The lumina

Gold Medal, to the National Swedish Anti-Tuberculosis Association.

Silver Medal, to the Maryland Association for the Prevention and Relief of Tuberculosis.

F.—For the plans which have been proved best for raising money for the crusade against tuberculosis.

Gold Medal, to the National Swedish Anti-Tuberculosis Association.

Silver Medal, to the Wisconsin Committee of International Congress on Tuberculosis.

Silver Medal, to the Working Men's Club of Hartford, Conn.

Honorable Mention, to the Maryland Association for Prevention and Relief of Tuberculosis.

H.—For the best plans for the employment of arrested cases of tuberculosis.

Gold Medal, to the Eudowood Sanatorium Farm of Baltimore.

Silver Medal, to the Henry Phipps Training School for Nurses of Philadelphia.

I.—For the best exhibit of new architectural plans for a sanatorium for the treatment of curable cases of tuberculosis among the working classes.

Silver Medal, to Mr. Lindley Johnson, Philadelphia.

Silver Medal, for the plans shown in the Agnes Memorial exhibit.

Honorable Mention, to Milton See and Son.

Honorable Mention, to Garland Lister and West, England.

Honorable Mention, to A. Randall Wells, England.

K.—For the best exhibit of new architectural plans for a hospital for the treatment of advanced pulmonary tuberculosis.

Silver Medal, to the exhibits of the Swedish National Anti-Tuberculosis Association.

Silver Medal, to the Henry Phipps Institute, Philadelphia.

Silver Medal, to the Boston Consumptives' Hospital.

M.—For the best exhibit of a unit package of preventive supplies for a tuberculosis patient for a definite period of time (one, two, three or four weeks).

Gold Medal, to the State Board of Health of Maryland.

Silver Medal, to the Henry Phipps Institute of Philadelphia.

N.—For the best exhibit of a workshop or factory, constructed and managed in the interest of the crusade against tuberculosis.

Silver Medal, to the Massachusetts exhibit for the series of photographs showing devices to improve factory conditions in the state.

SPECIAL AWARDS TO EXHIBITS NOT IN COMPETITION.

Gold Medal, to the United States Government Printing Office for novel sanitary cuspidors and appliances.

Gold Medal, to the United States Government Department of the Interior for a valuable and interesting exhibit of tuberculosis among the Indians.

Gold Medal, to the United States Department of Commerce and Labor for its fine exhibit of charts and maps bearing on tuberculosis, prepared by the Census Bureau.

Gold Medal, to the United States Marine-Hospital Service for an excellent exhibit showing valuable work in progress.

Gold Medal, to the Department of Health of the State of Pennsylvania in recognition of its work in establishing a magnificent system of dispensaries and sanatoria.

Gold Medal, to the State of Colorado, with special mention, for the splendid relief map of the state exhibited by it.

Gold Medal, to the Massachusetts State Committee of the International Congress for the bound volume on "Tuberculosis in Massachusetts," a valuable contribution to the literature of this subject, bringing together related facts and history heretofore accessible only in separate and disconnected forms.

Gold Medal, to the Anti-Tuberculosis League of Porto Rico, for noteworthy progress since the institution of the league.

Gold Medal, to the National Association for the Combating of Tuberculosis of Denmark, for its interesting history of successful effort.

Gold Medal, to the New York State Charities Aid Association for effective work in organizing a state campaign.

Gold Medal, to the Sea Breeze Hospital, Coney Island, New York, for sea air treatments of tuberculosis of the bones, joints and glands in children.

Gold Medal, to the National Association for the Study and Prevention of Tuberculosis, for its report entitled, "The Campaign Against Tuberculosis in the United States."

Gold Medal, to the Colorado Fuel and Iron Company for its fine exhibit of exemplary work in its hospital and welfare departments in behalf of its thousands of employés in the prevention of tuberculosis.

Gold Medal, to the Playground Association of America for its striking exhibit and the valuable work being accomplished by it in developing this important preventive measure.

Gold Medal, to the International Children's School Farm League of New York City, a beautiful work, wisely planned, successfully demonstrated and prolific in its results.

Gold Medal, to the *Journal of the Out-Door Life*, Trudeau, N. Y., in recognition of the valuable service which it has given and is giving in the general campaign against tuberculosis throughout the United States.

Gold Medal, to Dr. D. Sarason, Berlin, Germany, for models and plans showing new and interesting principles in house construction in its relation to the prevention of tuberculosis.

Gold Medal, to the Anna von Rath Stiftung, Berlin, Germany, for valuable philanthropic work as illustrated in its exhibit.

Gold Medal, to Prof. J. C. Haymans of the University of Ghent, Ghent, Belgium, for his admirable exhibit, illustrating his method of vaccination of cattle.

Gold Medal, to Prof. Edouard Lang of Vienna for his painstaking and persistent efforts in the interest of the treatment of tuberculosis of the skin.

Gold Medal, to Dr. Simon von Unterberger of St. Petersburg, Russia, for a valuable paper on "House Sanatoria in the Fight with Tuberculosis," elaborating twelve theses of texts for wall charts, with the recommendation that, if the central committee thinks it wise, the paper should be translated into English and printed with the transactions of the Congress.

Silver Medal, to Dr. Sims Woodhead for plans, with elaborate details and descriptions, of a sanatorium in England.

Silver Medal, to the State Department of Health of Pennsylvania for a model cottage for incipient cases of tuberculosis shown in exhibit No. 26 of Pennsylvania.

Silver Medal, to the New York State Committee of the International Congress for its exhibit illustrating the production of clean milk.

Silver Medal, to the Central State Hospital Tuberculosis Department, Petersburg, Va., under the care of Dr. W. F. Drewry, for advanced knowledge and research and preventive work in connection with tuberculosis among the negroes.

Silver Medal, to the Louise M. Alcott Club and the Hawthorne Club jointly of Boston, Mass., for an especially fine exhibit of their work and methods in the training of children in the laws of hygiene and the means of prevention of tuberculosis.

Silver Medal, to the Gaylord Farm Sanatorium, Wallingford, Conn., for its exhibit illustrating the value of its training for patients for after-care of themselves in their homes and occupations.

Silver Medal, to Barlow Sanatorium at Los Angeles, Cal., for the admirable model in regard to excellence in detail, construction and installation.

Silver Medal, to the Prudential Insurance Company of Newark, N. J., for its series of splendid charts showing mortality from consumption in various occupations.

Honorable Mention, to the Nathan Straus exhibit in recognition of philanthropic effort in supplying milk to the children of the poor.

Silver Medal, to the Stonywold Sanitarium, Lake Kushaqua, New York, for its admirable method of securing maintenance through ladies' auxiliaries in many communities.

Honorable Mention, to the State Board of Health of Maine for the painstaking exhibits showing the accomplishments of the board in that state.

Honorable Mention, to the State Board of Health of Michigan for a model shack for home use, having novel and excellent features.

Honorable Mention, to the Department of Health of the State of Pennsylvania for twelve beautiful auto-tone films of human lungs, showing tuberculosis conditions, this being the first application of this process to medical uses.

Honorable Mention, to the New York State Department of Health for six popular educational banners for use in tuberculosis campaigns.

Honorable Mention, to the National Institution for Assisting Consumptives, Lisbon, Portugal, for an interesting historical sketch of the work of relief and prevention of tuberculosis in that country.

Honorable Mention, to the Boston Association for the Prevention of Tuberculosis in recognition of its special classes in hygienic instruction of delicate children and its outdoor school for children afflicted with consumption.

Honorable Mention, to the exhibit of the Hospital for Crippled and Deformed Children of Baltimore, Md., which well illustrates its work and is valuable educationally.

Honorable Mention, to Arthur V. Chapman of West Orange, N. J., a sufferer from tuberculosis, for a model built by himself of a consumptive's shack, in which he has lived in his own back yard for some years, with the result of improvement in his condition, and which he offers to show others what a poor man can do to help himself to recovery.

Honorable Mention, to the Portland Open Air Sanatorium at Portland, Ore., for the model of a shack and other models showing valuable work done and in progress.

Honorable Mention, to the Pittsburg Natatorium Educational Department for its portable school exhibits.

Honorable Mention, to the Davos Hospital for Advanced Tuberculous Cases, Davos, Switzerland, for a fine exhibit of its great establishment.

Honorable Mention, to Dr. Theodore B. Sachs of Chicago for his exhibit of charts showing results of investigation of tuberculosis conditions in Jewish districts in that city.

The committee has considered with much interest and appreciation the evidence laid before it of personal work through the Federation of Women's Clubs, through labor unions, and similar associations, for the promotion of the general campaign against tuberculosis. It regrets that it does not see the way clear to make special awards to individuals in this country for personal work in the cause.

A number of other competitions were previously announced, but, as no awards were made, no mention is made of them here.

(The report of the proceedings of the sections will be continued next week.)

KENTUCKY STATE MEDICAL ASSOCIATION.

Fifty-third Annual Session, held at Winchester, Sept. 23-25, 1908.

(Continued from page 1354.)

Perforative and Infective Peritonitis.

DR. FRANK BOYD, Paducah, in the address in surgery, discussed infective peritonitis at length:

The elements of treatment consist, first, in closing the point of leakage; second, relieving pus tension by putting in a drain: third, getting out of the peritoneal cavity and leaving in the drain to prevent subsequent tension. There should be no washing, no sponging, no trauma. Salines should be used by rectum by the drop method, and the patient should be kept in as nearly a sitting position as possible. To summarize: Early diagnosis and prompt operation are imperative, providing free drainage and closing the perforation. No time should be wasted in breaking up adhesions, walling off, wiping off, or flushing out. No opiates should be given under any circumstances. Saline solution should be administered by the drop method continually until the patient is out of danger. The patient should be placed in a sitting position, or the bed should be elevated sufficiently to accomplish the same purpose. No patient should be refused operation by reason of his desperate condition.

SYMPOSIUM ON NERVOUS DISEASES.

Hysteria.

DR. MILTON BOARD, Louisville: In the treatment of hysteria the object to be attained is re-establishment of the discipline of life—regularity in the hours of rising, retiring or meals, and of the secretory functions. A great amount of tact and firmness on the part of the physician and nurse is required, and the absolute surrender of the patient into the hands of the medical adviser is essential. Hysteric patients can seldom be treated at home with success. Isolation is required, as thereby is accomplished the breaking of domestic, business and social ties which have produced or aggravated the disease. Treatment wherever given should be prolonged and as far as possible a new moral nature given the patient.

Multiple Neuritis.

DR. GEORGE P. SPRAGUE, Lexington: This disease results from poisoning by alcohol, lead, arsenic, mercury, ergot, carbon sulphid, carbon oxid, silver, many of the infectious diseases, especially diphtheria, typhoid, rheumatism, influenza and malaria, and in states of severe malnutrition. The number of males affected by it is larger than is the number of females, and yet considering the lesser number of females who use alcohol, it is clear that women are far more susceptible to it than are men. This has been ascribed to the more delicate nervous organization of the female, but as a sedentary life predisposes to the occurrence of multiple neuritis, it may also account for the greater susceptibility of women. The forms most frequently observed in this country are in the order of their occurrence, those due to alcohol, diphtheria, lead and arsenic: but alcohol causes from 60 to 80 per cent. of all cases. Multiple neuritis occurs without known exciting cause, but there is, in every case, an acquired or inherited nervous weakness in addition to the toxin absorbed. The pathology varies somewhat in the various forms, but the changes found in alcoholic neuritis are the most widespread, including most of the conditions found in the other forms. The symptoms are many and varied, but are symmetrical as to the two sides of the body being affected, although one side is always more involved than the other, and this difference in degree may be alternating. The diagnosis in a typical case should be easy for the general practitioner, as a progressive weakness, accompanied by acute pain and muscular atrophy, beginning in the extensor muscles of both feet, slowly extending to the thighs, then involving both arms and forearms, followed by both arms and finally affecting the trunk, can not belong to any other disease. The treatment is entirely symptomatic. With a toxic cause, degenerating nerves and atrophying muscles, contracture of joints, extreme pain and confusion of mind, it is evident that the patient must be put at once to bed, even though he feels no need of it; the poison must be removed, and the patient be put on a full diet.

Occupation Neuroses.

DR. JOHN J. MOREN, Louisville, reported cases of occupation neuroses, chiefly of writer's cramp:

In writer's cramp, when the case is seen early and there is evidence of anemia or some defect which can be removed or relieved, the outlook is comparatively favorable, but in all cases of occupational neurosis which have become thoroughly established, it has been my experience that the prognosis for cure is unfavorable. I have never seen good result from any treatment in well-marked, thoroughly developed cases of writer's, telegrapher's or typewriter's cramp. Typewriter's cramp and the so-called occupational pain, are much more amenable to treatment. I have seen several cases which resembled occupation neurosis, as in button-hole workers, seamstresses, etc., which were only paresthesia of the nerve, dependent on anemia, the correction of which relieved their symptoms. The most important part of treatment is complete rest. In cases in which a continuation of the occupation is necessary, partial rest may be tried. Recently, Bier's hyperemic method was used in one case with decided improvement. A rubber band was used around the forearm for twenty minutes twice daily.

Discussion on Nervous Diseases.

Dr. Curran Pope, Louisville: The essential element in the treatment of hysteria is the appeal to the patient, and this comes more strictly and directly through the physician than it does through any other element. His own experience, his own actions, his own ability to cause clean-cut, decisive acts have more to do in making the appeal to the hysteric patient than any other feature in the management of a particular case. I differ from Dr. Sprague in the statement that there is a loss of the faradic response in cases of multiple neuritis. There may be only partial loss of faradic response. The essential element is in the changed reaction. The treatment should be direct, radical and progressive in these cases. Whenever a case of this kind comes under my care, the essential keynote is elimination and reconstruction—elimination through the skin, by the kidney and through the bowels.

Dr. O. Hancock: Hysteria is a terminal affection which results from faulty metabolism of the liver. We have so many manifestations and so many pains that we have been in the habit of regarding them as imaginary symptoms, making light of them with patients who really suffer. These fixed products in the blood are poisonous, and they have an effect on the nervous system. They produce these conditions in the body which are real and we must regard them as such. We must be more humane in the management of cases of hysteria. We should maintain equalization of metabolism, and control the liver, so that we may be able to eliminate this poison from the fixed products in the blood. The power of personal appeal has much to do with this matter.

SYMPOSIUM ON DISEASES OF CHILDREN.

Diet and Hygiene of Children from Two to Six Years of Age.

Dr. P. H. Barbour, Louisville: When children have reached the age of 2, the character of the feeding is not of such vital importance as in the earlier years of their lives. The healthy average child over 2 years of age is able to digest any kind of food that the parents are likely to give it. All easily digestible foods are suitable for a child between the ages of 2 and 6. It is often impossible to get a child at this age to take a sufficient variety of food. The training of a child to eat the proper food is one of the most important duties of the mother, and by patience and perseverance a taste for any of the usual foods can be acquired. It is important that the child be not overfed with sweets. When there are idiosyncrasies to certain foods on the part of the parents, it will frequently be found that the child is also unable to digest them. The hygiene of the child during this period is especially important for these years leading up to second dentition comprise one of the great developmental periods in its life. One of the safeguards against the hyperexcitement of the child is fatigue. Fatigue is the healthy normal response to exertion. Normally, when the child has played and becomes fatigued it stops and takes its rest in one way or another, and so a healthy fatigue builds up and strengthens the body, but in the city flats where the children are cooped up with the parental mind all day, there is a false stimulation to exertion which frequently results in over-fatigue, the continued effects of which may leave a permanent impression on the growing child. Growing pains are often thought by mothers to be a natural process and a result of too much play. It is important during this period of life to emphasize these as evidences of rheumatism with all the potentiality of organic heart disease. The physician should caution the mother on this point.

Comparative Dosage in Children.

Dr. A. O. Sisk, Earlington: By comparative dosage in children we determine the size of the dose of a particular drug to be given a child according to its age, development, idiosyncrasies, susceptibility, etc. The full or adult dose ordinarily is reckoned to be given at the age of 21 years, and the full dose is reduced proportionately for the child according to conditions. So many circumstances are connected with infancy and childhood that one must be governed by the individual case. For instance, one child may be more developed at 10 than another is at 14. The nursing baby, in its second summer, with the almost certainty of the acute infectious diseases, together with all or nearly all the diseases to which man is heir, is rendered exceedingly liable to faulty development. In determining the size of the dose to be given, one must consider the nature of the disease and the properties of the medicine required, whether it be an opiate, anodyne, stimulant, purgative or sedative; whether it be the iodids, bromids or salicylates; whether the action is to be systemic or local; and last but not least, one must determine for himself whether there exist any idiosyncrasies for any drug or group of drugs

Symptomatology.

Dr. R. B. Gilbert, Louisville, discussed the general symptoms of diseases in childhood:

Fever, as a symptom in children, has a wide range of significance. If an infant has a fever it means either that there is an inflammation somewhere, or that toxemia or sepsis is present. If a fever comes on suddenly following a slight chill, and the temperature rises to 103 or 104 F., one may look for the development of such affections as pneumonia, scarlet fever, measles, malaria, tonsillitis or diphtheria. If the child rolls its head from side to side and clutches its head with its hands, otitis media or acute cerebral or meningeal inflammation may be suspected. Either one or more of the diseases mentioned may be the cause of the fever, but in order to make a diagnosis the physician must go much further and examine his patient's throat, ears, lungs, etc., for differential points and symptoms.

Relation of Rachitis and Osteomalacia.

Dr. C. B. Creech, Middlesburg: In my opinion, a close relation exists between osteomalacia and rachitis The etiologic factor is a general toxemia. It is a chemical poisoning produced by impaired metabolic processes This derangement of metabolic processes may be produced by either an excess or deficiency of either fats or proteids, unhygienic environment, or insufficient exercise, and is not always due to any of these factors The toxic products of faulty metabolism circulating through the system interfere with the reparative processes of bone—deposition of lime salts. Because of the interference with calcification in children, their bones remain soft and flexible. The toxic element by its irritating effect produces also a hyperemic condition of the bones. In adults catabolic changes are constantly taking place, and if there is no reparative process to maintain the equilibrium, the inevitable result will be decalcification of the osseous system. The greater frequency of these pathologic changes in children and the pregnant woman is attributable to the fact that they are most susceptible to various toxemias and disorders of metabolism.

Discussion on Symposium on Diseases of Children.

Dr. McDonald, Westfall: When we think that the men of the future are the children of to-day, we begin to realize how important the management of these little fellows is in their infancy. When we cut out the food from the children in the country as Dr. Barbour advises, I am afraid we will have no more great men, for bacon and beans in the winter are the staple articles of diet and molasses and bread constitute the rest of it. In reference to comparative doses for children, experience teaches us the dose to give. Children have their idiosyncrasies, and within certain limits we know the dose, but it is often necessary to increase it. Young children often stand certain medicines better than older children.

Dr. R. B. Gilbert, Louisville: The point that Dr. Creech makes in his paper is that the rachitic condition of the child is due to chemical changes arising from metabolic changes. I do not think we have a disease that is simpler in its pathology and easier to treat than rickets. If the infant is eating food that is wholesome, but is given an excess, which is shown by the poor elimination of that food from the alimentary tract, the presence of these acids will decompose the lime salt, making it neutral, and therefore the bone gets an insufficient supply. The carbonic acid is displaced by other acids, and it is the carbonic acid which holds the lime together. This change in the metabolism Dr. Creech attributed to the use of an excessive amount of fats. It is not so much the fat as it is the undigested food.

Dr. W. W. Anderson, Newport: Children respond quickly, sharply and forcibly to disease and also to drugs. The action of toxins, or the various pathologic germs, and the action of drugs are prompt in childhood because probably the absorption is rapid, and possibly also because the power of resistance of the nervous system is greater. Therefore, when we are called to a child and find a temperature of 106 F., we should never throw up our hands in despair by any means. High temperature does not usually mean so serious a condition in the child as it does in the adult. Serious bronchitis may exist in an idiotic or degenerate or insane person and be accompanied with very little cough. That is one reason why pulmonary trouble gets such a start because they do not talk. Their nervous systems do not so readily respond to irritation.

Dr. H. D. Rodman, Bardstown: I think Dr. Barbour was a little too exclusive as to diet. The diet he recommends may do for poorly nourished city babies, but the country babies ought to have a little more meat. I do not think that ham would be very good for a child of that age, but I do believe a little well-cooked steak is good. It is difficult to put a baby on a diet list in the country. We must feed such babies as best we can with what we have, and generally we can get along first rate with any ordinary country food. We have less trouble than the city physicians in that respect from the fact that we can get purer food, food better prepared than the food in the city.

Dr. P. H. Barbour: In my paper I gave a list of the things that should be excluded. There is no question but that some children can take almost any kind of food and do well on it. I have seen German children in our own city who could eat sauerkraut at 6 years of age, but I would not draw the inference from that that it is good for all children. I do not think pork is good, except as well-prepared bacon. Ham is not very digestible and not very nutritious. It is not a question of unwise eating, but, on the contrary, of doing the best we can for the child. I do not think rickets a mere matter of the deposition of lime salts in the bone. I do not think it is the formation of lactic acid in the bowel. Lactic acid is always present in the child's bowel, and if it is the cause of rickets every child would have rickets. Rickets is a disease of the muscular and the ligamentary systems. It affects the stomach and intestines. It affects the nerve centers, predisposing to convulsions. I have not yet found any author who could give a real reason for rickets. Some claim it is too much fat, and others that it is too little fat. Some claim it is too much proteid, while others claim that it is too little proteid. The question has not yet been properly answered.

(*To be continued.*)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-eighth Annual Session, held at Cambridge Springs, Sept 14-17, 1908.

(*Continued from page 1357.*)

Acute Contagious Conjunctivitis.

Dr. Oliver H. Fretz, Quakertown: In acute epidemic disease popularly known as "pink-eye," the active causative agent is a small bacillus. The duration of the disease is from ten days to a fortnight, and it is contagious only so long as secretion is present. Relapses occur, and one attack does not insure against subsequent ones.

DISCUSSION.

Dr. Wendell Reber, Philadelphia: From the carelessness in public bath-houses, acute contagious conjunctivitis has been spread. I believe that further study would throw interesting light on the condition.

Dr. L. Leo Doane, Butler: It is not possible that many of these cases were due, wholly or partially, to the pneumococcus.

Dr. W. Reber, Philadelphia: Dr. All of St. Louis has reported 90 per cent. of the cases as due to the pneumococcus.

Dr. E. B. Heckel, Pittsburg: The microscope is the final aid in arriving at a diagnosis, but it is a question whether or not the smears are always reliable. It is important to look after the nasal cavity and the neighboring sinuses. It is a mistake to split the canaliculus, save as a last resort.

Importance of Rhinoscopic Examination of the Sphenoethmoidal Region in Meningitis of Doubtful Origin.

Dr. Ross Hall Skillern, Philadelphia: The principal predisposing cause is a congenital defect in the osseous wall of the sinus, whereby the infection spreads by continuity to the base of the brain. A second cause is a peculiar susceptibility of the individual for the attacking germ. A third is constituted by defects in the ethmoid and sphenoid. Exciting causes depend on occlusion of the drainage passages and on special virulence of the infectious material. It is not necessary for complete stagnation to be present, in order to have pressure symptoms. The prodromal symptoms are the most important, but in the majority of cases the patients do not seek medical advice until the stage of cerebral irritation is reached, the prominent nasal symptoms being attributed to ordinary colds.

DISCUSSION.

Dr. George M. Coates, Philadelphia: Dr. Skillern had failed to mention the ophthalmic symptoms that are practically constant with cerebral complications from sphenoidal empyema.

Dr. R. Milligan, Pittsburg: In a case in which the diagnosis was doubtful, the child died, and extensive cavernous sinus thrombosis was found. The infection must have come through the nose.

Dr. M. V. Ball, Warren: Can anything be done in cases of cavernous sinus thrombosis due to infection.

Dr. Skillern: Nothing can be done unless the disease is recognized before the sinus is attacked.

Diseases of the Nose in Children from a General Medical Standpoint.

Dr. Daniel Langton, Shenandoah: There is a prevailing lack of knowledge of the anatomy of the nose among general practitioners, and frequently culpable indifference is shown by many of them in treating nasal disease in children, treatment is a necessity in such cases.

DISCUSSION.

Dr. G. R. S. Corson, Pottsville: It is important to examine the nasal chambers of all children suffering with so-called sore eyes, especially ulcerative keratitis. The nose should never be examined, especially in children, without having been protected by the use of cocain. In treating the nose, I prefer oil to the powder, as the oil will more rapidly spread over the membrane.

Dr. L. Leo Doane, Butler: The attention of general practitioners should be directed to the significance of one-sided purulent rhinitis in children.

Dr. Clarence M. Harris, Johnstown: Too much stress can not be laid on conditions of the nose and throat in children, especially in mountainous regions.

Dr. Ross Hall Skillern, Philadelphia: If at the time a child receives an injury of the nose he were to be examined and proper measures instituted, a great many divisions of the septum would be overcome in early childhood.

Aural and Laryngeal Complications of Typhoid Fever.

Dr. Joseph Gibb, Philadelphia: The laryngeal complications of typhoid may be divided into three groups; the first including simple catarrhal and edematous cases; the second, all forms of ulceration, superficial and deep, and the third, all paralyses. Aural complications of typhoid include impairment of hearing, hemorrhage from the middle ear, acute inflammation of the middle ear, and mastoid inflammation.

DISCUSSION.

Dr. Edwin Rosenthal, Philadelphia: I regret that Dr. Gibb had not finished the laryngeal portion of his paper, as I have seen many cases in which intubation was done too late to be of use. The fact that 20 per cent. of typhoid patients have aural or laryngeal complications is enough to make one study them more specifically.

Dr. G. Hudson-Makuen, Philadelphia: I am aware of the difficulties in determining the exact etiology of the deafness in many cases of typhoid.

Nasal Respiration; Its Relation to General Diseases.

Dr. G. R. S. Corson, Pottsville: Owing to the peculiar anatomic structure of the nasal cavities, the inspired air, in passing through them, is prepared for its purpose of the oxidation of the end-products of metabolism. Hence, any alteration of the structure of these cavities interferes with that important function. A gastrointestinal catarrh is usually set up, which interferes with the general nutrition, with resulting anemia and lowered vitality.

DISCUSSION.

Dr. Lewis H. Taylor, Wilkes-Barre: The removal of adenoids is a safe and simple operation; that is, in the hands of *a skillful operator. Much damage might* be done, if the throat were rudely invaded by one not acquainted with the anatomic structures involved. It is an important operation and should always be done under general anesthesia.

Dr. Earle W. Bolton, Oil City: The general practitioner has not done his whole duty when he has removed adenoid growths, particularly in children from 10 years old up. The patients should be sent to a dentist, who should readjust the arch. In some cases the dental arch has been brought down half an inch by the adjustment of a proper appliance.

Dr. Rufus B. Scarlett, Philadelphia: I operated on adenoids in a little girl, with the result of improving her hearing so much that, a week later, on the Fourth of July, the noise of the fireworks caused her so much discomfort that cotton had to be placed in her ears.

Dr. J. C. McAllister, Ridgway: Spreading the arch in a number of cases has afforded better nasal respiration than could be obtained by any other means.

Dr. G. R. S. Corson: The importance of correcting deformities in the arch should be impressed on general practitioners and laymen. I wish that he could emblazon on every house the fact that such a result can be obtained by so simple a thing as the removal of adenoids.

Adenopathy in Infectious Conditions of the Buccal Region.

Dr. Edwin Rosenthal, Philadelphia: There was an epidemic among children last winter, the glands of the neck being attacked. I wish to lay stress on the importance of direct examination of the throat, mouth, nose, nasopharynx, teeth, etc., and to the advisability of a bacteriologic examination in all obscure conditions, a symptom of which is enlargement of the lymphatic glands of the neck.

DISCUSSION.

Dr. Joseph Gibb, Philadelphia: Has Dr. Rosenthal found any suppuration and enlargement of the posterior, as well as of the anterior cervical glands, with retropharyngeal abscess.

Dr. Rosenthal: I have seen postpharyngeal abscess in one case.

Nasal Accessory Sinus Complications Following Grip.

Dr. G. Arthur Dillinger, Pittsburg: The x-ray is valuable in making the diagnosis, but there is danger of overlooking a closed ethmoiditis, which is often first diagnosed on the postmortem table. The importance of free drainage of the sinuses in the acute stage should be emphasized.

DISCUSSION.

Dr. G. Hudson-Makuen, Philadelphia: The sinuses should be freed, if blocked, so as to avoid nasal complications in grip.

Dr. M. V. Ball, Warren: Morphin is less valuable as an anodyne than chloral in such cases.

Dr. G. A. Dillinger: While it is claimed that a definite diagnosis of pus may be made from the plate, the appearance is sometimes due to a thickened membrane. No mistake will be made in operating, however, in either case.

Relation of the Faculty of Hearing to the Faculty of Speech.

Dr. G. Hudson-Makuen, Philadelphia: Hearing is largely a mental process, involving the use of the higher intellectual centers of the brain. It varies in different individuals, and its highest and most important function is to regulate the development and production of speech. The character of speech usually reflects the character and degree of hearing, and a faulty or delayed development of speech always a corresponding defect of hearing.

(*To be continued.*)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Twenty-first Annual Meeting, held at Baltimore, Sept. 22-24, 1908.

(*Continued from page 1356.*)

Ectopic Gestation.

Dr. Charles L. Bonifield, Cincinnati: I divide cases of tubal pregnancy into five classes: First, those in which a slight hemorrhage occurs at an early period, from six to eight weeks, and kills the ovum. Such an ovum with the blood clot may be absorbed and the patient regain her health. Second, those in which the rupture occurs a little later than the eighth or tenth week. In these the hemorrhage is so profuse as to cause well-marked classic symptoms, but is not so profuse as to menace at once the life of the patient. Third, cases in which the patients are in immediate danger of death from hemorrhage. The cases in this class are not numerous, but give rise to practically all the argument as to the relative virtues of immediate and deferred operations. The best course to pursue is to operate at once if the hemorrhage is in progress when the operator sees the case, and to defer operation if it has ceased. In the fourth class there is a living fetus which has developed to the sixteenth week or later. About fifteen years ago I operated in such a case at the sixth month. The child died in a few minutes, and the mother only survived twenty-four hours. Her death was due to loss of blood caused by the separation of the placenta from the intestines and omentum, to which a large part of it was attached. In the fifth class the physician has to deal with a dead fetus which has attained an advanced stage of development. The death of the fetus renders the operation safer for the mother, provided it is not undertaken until a sufficient time has elapsed for a change to take place in the placenta. I have operated on two such cases.

Discussion on Extrauterine Pregnancy.

Dr. Albert Goldspohn, Chicago: I do not think that all *extrauterine pregnancies* should be operated on at once. Cases of tubal abortion, in which the ovum slips out of a somewhat dilated abdominal end of the tube, do not bleed very much, nor do they produce profound shock. The natural course is for the hemorrhage to stop by the formation of a hematoma to a limited degree, and there is no danger to life, either immediate or remote. Operation is usually advised in case invalidism results more or less from the cicatricial mass of coagulated blood which will not be entirely absorbed, and which will usually form an entanglement about the ovary. This condition requires operation later. When hemorrhage has stopped and the hematoma is accessible, *it can* be emptied by the vagina if one makes the proper incision for vaginal drainage. On the other hand, it is not safe to assume that in ruptured tubal pregnancy hemorrhage is going to stop, hence it is necessary to operate.

Dr. C. C. Frederick, Buffalo: I have operated 133 times for ruptured ectopic pregnancy. There are cases of tubal abortion in which the amount of hemorrhage is so small and finally ceases, that eventually the women get well without operation.

Dr. Henry Schwarz, St. Louis: There are several cases on record in which women with tubal pregnancy have gone on to term. I operated on such a patient. The sac was removed in its entirety, opened, and disclosed a mature macerated male fetus above the average weight.

Dr. A. B. Miller, Syracuse, N. Y.: No one can lay down any law which will govern the ordinary practitioner as to the time for operation as he comes in contact with these cases. Some patients with ruptured extrauterine pregnancy undoubtedly may have their lives saved if they are operated on immediately.

Dr. Walter B. Chase, Brooklyn: Every case must be a law unto itself regarding operation.

Dr. Miles F. Porter, Fort Wayne, Ind.: If a surgeon is called to see a man with a history of having received a stab wound in the neck and has symptoms of bleeding to death, naturally he would search for and tie the bleeding vessel. This is the thing to do in a case of ruptured ectopic pregnancy in which hemorrhage is going on. If one could tell when hemorrhage has ceased, he can wait, but who can tell this?

Dr. Thomas B. Noble, Indianapolis: I believe in the doctrine and preach the philosophy of immediate operation in ruptured extrauterine pregnancy, because if the information goes out that these cases are to be treated by procrastination until the diagnosis is certain, these patients will be tinkered with by general practitioners, and the specialist will only be called in to sign death certificates.

Dr. Frederick Blume, Pittsburg: I desire to emphasize the importance of differentiating cases which should be operated on from those which should be left alone.

Acute Pancreatitis.

Dr. Louis Frank, Louisville, Ky.: Pancreatic disease until recent years has been much neglected, though its study is important. Pancreatic diseases are not all incurable. The anatomic and etiologic factors must be considered, and the necessity of early recognition should be recognized. The treatment is surgical, and in order to be effective it must be prompt.

DISCUSSION.

Dr. Thomas B. Noble, Indianapolis: I recall three cases of pancreatitis, two of which were hemorrhagic and one acute interstitial. Two were accompanied by an antedating biliary disease. The first was one of hemorrhagic cyst due to hemorrhagic pancreatitis. The cyst was evacuated, but the patient died eight days later of acute mania. The second case was attended with empyema of the gall bladder, with gallstones and infection therefrom, and presenting widespread fat necrosis. This patient, a woman, recovered. A third was a case of large hemorrhagic cyst in a physician. The condition was diagnosticated as malignant disease, and continued for two or three months. Under local anesthesia the abdomen was opened and a gallon of thick, viscid, tarry fluid was removed from the pancreatic region, but successive hemorrhages occurred until he bled to death.

Dr. Walter C. G. Kirchner, St. Louis: I have seen three or four cases of acute pancreatitis, in all of which the patients died at the end of a few days. One was an acute infection of the pancreas, with suppurative changes resulting in fat necrosis. The second was the gangrenous form, and in the third case, which I saw recently, there was a history of gastric hemorrhage. The patient had had several of these hemorrhages. They were not considered serious and operation was deferred, but the patient was taken suddenly ill on the street at 2 o'clock in the afternoon, and at about 3 o'clock, when brought to the hospital, was in a state of collapse, and two hours thereafter died. Autopsy revealed perforative duodenal ulcer, the perforation taking place in the head of the pancreas.

Abscess of Gartner's Canal.

Dr. Magnus A. Tate, Cincinnati, spoke of the rarity of this condition, and reviewed the literature of the subject. He reported the following case: Patient, a woman, aged 36, normal weight 135 pounds, married fifteen years, had never been pregnant. She had never had any discharge of a bloody character from the vagina, and never had had any of the other symptoms which often accompany a menstrual discharge. For some years she had had a number of peculiar attacks, but did not know what caused them, nor had she ever had any satisfactory causative explanation. The trouble began with a pain in the pelvic region accompanied by rigors, this being followed by distinct chills, rapid pulse and high temperature. This lasted from a few days to a week or two, then there was a vaginal discharge of a little pus, which was always followed by a subsidence of symptoms, and then an apparent recovery ensued. The patient would then get up, go about her household duties, and be free from another spell for from six months to a year, when she would have a similar attack. She was somewhat emaciated, only weighing about 100 pounds when I saw her, was very feeble, her temperature ranging from 102 to 104 F., and pulse from 120 to 130. Abdominal examination revealed some tenderness over both the right and left lower sides of the pelvis. Vaginal examination was painful, and the patient said that there had been for a few days a slight watery flow mixed with a little pus. The vagina was hot and tender, so that examination was unsatisfactory. The patient consented to go to the hospital. A vaginal examination under anesthesia disclosed a small anteverted uterus, but no tubes or ovaries could be palpated. On the right wall at a central point between the anterior and posterior vaginal walls was found a decided thickening, and on tracing it up, it felt like a ridge of massed tissue which pased up to the side of the cervix in the vaginal vault. As I was still at a loss to account for the symptoms, I opened the posterior cul-de-sac, and on careful palpation thought I detected a small fluctuating mass in the right broad ligament, but no ovaries or tubes were present to the examining finger. After packing some gauze in the back of the uterus I opened up this ridge of vaginal ligament as far as possible. I thought best at this time to stop and make an abdominal section later if the woman's condition would allow it. The following day the gauze which had been placed in ridge tissue was bathed in pus which was constantly being discharged. The temperature subsided and the patient recovered. For nine months her health has been excellent; no pain or tenderness; no vaginal discharge; she has gained her usual weight, and is normal except for the absence of menstrual flow.

Cesarean Section.

Dr. C. C. Frederick, Buffalo, N. Y.: Until recent years Cesarean section was appealed to only as a last resort in obstetrics, but now it is as safe as any other abdominal operation, if done early. The consensus of opinion is becoming favorable to Cesarean section as being preferable in contracted or deformed pelves, to protracted high forceps operation, version, symphyseotomy or pubiotomy. Is it not preferable also to accouchement force in severe uremic convulsions or in placenta prævia with central implantation?

Development of the Human Ovum During the First Eight Weeks of Pregnancy.

Dr. Henry Schwarz, St. Louis: All text-books of obstetrics describe the ovum and fetus at the end of ten periods of twenty-eight days each; and, without exception, they all declare the ovum to be the size of a pigeon's egg, and the fetus of a length of from 7 to 10 mm. at the end of the first lunar month, that is to say, before the woman's menstruation is overdue. The fact is, the youngest ovum on record, that of Peter, which was the size of a hemp seed, was found when menstruation was three days overdue, and belongs, therefore, to the middle of the fifth week of pregnancy, or to the beginning of the second lunar month. At the end of the first lunar month the ovum is still a very small body, and passes through the uterine end of the tube just about the time when menstruation becomes overdue. All ova varying in size from a millet seed to a hen's egg belong to the second lunar month, and their description has to be rearranged. I believe and have taught for twenty-five years that ovulation, as a rule, precedes menstruation, and that the impregnated ovum dates from the first menstrual period which has been suppressed: that during the first lunar month of our present counting pregnancy exists only during the last few days, and that during these days the ovum migrates through the tubes without noticeable increase in size, reaching the uterine cavity about the day of the expected menstruation, and there casting off its shell of zona pellucida, as demonstrated by Spee for the ovum of the guinea-pig.

who were introduced by the plaintiffs, that she was in a neurasthenic condition. It was true the physicians testified that there were no objective symptoms of this disease, and that their determination of the fact that she was suffering from it was largely induced by the statement and actions of the woman herself, yet they testified that in their opinion she was honest in her statements, and that there was no indication of fraud or pretense on her part. The testimony showed that at the time of the accident her hair was coal black, and that between the time of the accident and the trial it had turned gray; that she had suffered for three months to such an extent that she was unable to leave her bed, and that the suffering had continued at intervals of from two to three days in each week ever since; that from a woman of remarkable strength and activity she had degenerated into a woman who was not able to do her housework, who was in constant pain, who had to be waited on almost like a child, who had become prematurely aged, and who had lost her sexual powers and desires. The case was tried to a jury, and a judgment rendered for $5,410, which was reduced by remission to $4,000, of which latter sum the Supreme Court approves, declaring that it was not prepared to say that it was too large.

Power of Courts to Order Physical Examinations.

The Supreme Court of Colorado says, in Denver City Tramway Co. vs. Roberts, a personal injury case brought by the latter party, that among the assignments of error was one that challenged a ruling in the trial court refusing to grant an order for a physical examination of the plaintiff touching her alleged injuries by a surgeon of the company's selection or by one of the court's selection. The application for the order was made in due form, and with reasonable diligence. Motions of this kind are addressed to the sound discretion of the trial court, and, unless there is an abuse of such discretion or unless it clearly appears that that court misconceived the law, this court will ordinarily decline to set aside the ruling thereon. In this case, however, the record showed that the court below did not exercise his discretion at all. His action was predicated exclusively on the view that as a matter of law he possessed no legal power or authority to grant the motion or make the order requested. The complaint alleged that the injuries suffered were permanent; and a portion of the evidence offered on behalf of the plaintiff tended to support this allegation. The nature and extent of such injuries, together with the permanency thereof, are matters to be determined largely from the testimony of skilled physicians or surgeons. The object of the court and jury is always to ascertain the truth, and through such ascertainment to administer accurate, as well as impartial, justice. But the trial of these cases exclusively on the testimony of surgeons chosen by the plaintiff would often prevent the ascertainment of truth and visit injustice on the defendant. A physical examination by the defendant's surgeon or by a surgeon of the court's selection would seem to be a wise and a just precaution. Nevertheless distinguished tribunals have denied the right thereto. This court, however, has declined to follow such tribunals. In the recent case of Western Glass Mfg. Co. vs. Schoeninger, the subject was exhaustively considered and the power of trial courts to order such examinations was expressly upheld. Therefore the refusal in this case of the lower court to grant an order for an examination for the reason stated was error.

No Liability Attaches to Merely Requesting Physician to Attend Patient.

The Supreme Court of New York, Appellate Division, First Department, says that the case of MacGuire vs. Hughes was brought to recover for medical services, alleged to be reasonably worth $3,000, rendered in the treatment of the defendant's daughter. There was no express promise by the defendant to pay the plaintiff for his services. There was great anxiety about the daughter and her condition shown by the defendant, and an ardent desire that the daughter should receive the benefit of the plaintiff's professional skill and experience. The plaintiff knew that the patient that he was asked to attend was married and living with her husband, and he refused to attend the patient without her husband's consent. The husband's consent was obtained, and there then arose the obligation on the part of the husband to pay for the plaintiff's services to his wife. When that consent was obtained, the plaintiff at once consented to see the patient. He exacted no promise from the defendant as to compensation: nor was there anything said from which there could be implied an understanding that the services were to be rendered for the defendant, and not for the patient and her husband. He required the consent of the patient's husband to accept the employment, and continued in charge of the case to the end under such consent. There was therefore nothing, as the court views it, in this case which raised a presumption that the plaintiff's services were rendered to the defendant, or that the defendant promised to pay for them; and it is held that it was error to deny a motion to dismiss the complaint.

The question presented, the court says, was whether a person is responsible for merely requesting that a physician attend a patient for whom the person making the request is under no obligation to supply medical attendance. The court thinks that question has been conclusively determined in the negative in New York state and in England.

The principle established in certain cases referred to, which is a simple restatement of the common law, the court says, is that a simple request to perform services for another to whom there exists no obligation of any kind to furnish the services does not create an implied obligation to pay for such services by the person making the request, and that a promise to pay can not be implied from a simple request that the services be rendered; and the court apprehends that this principle is not peculiar to the relation of a physician and his patients, but extends to all cases where services, personal in their character, are rendered by one person to another.

This is the decision by three members of the court, the other two maintaining that the plaintiff made out a prima facie case of hiring by the defendant. They say that the only principle to observe in determining whether the parent is liable to pay in case of necessaries like medical attendance is the presumption that the contract was made by the parent in behalf of the person primarily liable, which in this case was the husband of the daughter. The moment that presumption is overcome the contract of hiring must be given effect and the parent must pay.

Current Medical Literature

Boston Medical and Surgical Journal.

October 8.

1. *Tumors of Adrenal Origin—with Particular Reference to Hypernephroma of the Kidney. H. C. Moffitt, San Francisco.
2. *Relation of Carcinoma of the Corpus Uteri to Fibroids. J. T. Williams, Boston.
3. Fracture of Lower Epiphysis of the Tibia. F. S. Coolidge, Pittsfield, Mass.

1. **Hypernephroma of Kidney.**—Moffitt says that it is interesting to note that in malformations of the brain—failure of frontal lobes to develop, hemicephalia, microcephalia, cyclopia, aplasia or hypoplasia of the adrenals is the rule. In monsters without sexual organs the adrenals are nearly always absent. Moffitt emphasizes the importance of accessory adrenals, and then devotes his paper to a consideration of the clinical vagaries of hypernephroma. He reports a series of cases and passes in review the most important points in the diagnosis of hypernephroma. 1. Hematuria is the most common symptom and may often be the first, and pain is its frequent accompaniment. Hemorrhages at long intervals rather favor the diagnosis of hypernephroma. The physician should regard every hematuria with suspicion. 2. Pain may be an early symptom, and may long precede other symptoms. 3. The tumor may vary greatly in size and a rapidity of growth. In addition to pain, the tumor frequently gives rise to other pressure symptoms—dilatation of the abdominal veins, edema of the feet, thrombosis of the femoral vein. 4. Metastases are most often found in the lungs, liver and bones. Pulsating bone tumors should arouse suspicion of metastases from either adrenal or thyroid. 5. Pigmentation has been observed in but few

cases of hypernephromata. 6. Trophic changes—abnormal development of genitalia or of general overgrowth—are associated with tumors of the adrenals, and hypertrichosis has been observed in both children and adults. 7. The urine may be normal throughout years, despite the presence of a renal tumor. Albumin may be caused by inflammatory changes, polyuria is not an uncommon symptom. 8. *X*-ray plates are of value in differentiating the hematuria of stone. Lumbar exploration will be rarely necessary if all modern methods of diagnosis are employed. Moffitt quotes the results of operation, and says that their disheartening character in the past should spur on the clinician to try all methods that may lead to early recognition of the growth.

2. **Carcinoma of the Corpus Uteri and Fibroids.**—Williams' considerations, based on a collection of 248 cases of associated adenocarcinoma and fibroids, lead him to the following conclusions:

1. There is a distinct relationship between carcinoma of the corpus uteri and fibromyomata.
2. This relationship probably lies in certain common etiologic conditions.
3. The predisposition of fibroids to become complicated with cancer does not constitute an indication for their routine removal as soon as discovered, providing the patient can be kept under close observation.
4. Any marked increase in the loss of blood from a fibroid, or the appearance of any vaginal discharge in the intervals between the hemorrhages should be regarded as suggestive of the development of carcinoma.
5. In a fibroid when either of these symptoms is present an immediate curettage should be performed in order that the condition of the endometrium may be examined, even if a radical operation has been decided on.
6. Every uterus removed for fibroids should be immediately opened by an assistant and the endometrium inspected to guard against possible oversight of a malignant process.
7. In all cases of fibroids complicated by adenocarcinoma of the corpus a complete removal of the uterus including the cervix is the operation of choice.

Medical Record, New York.

October 10.

4. *Duties of the Medical Profession to the Public. M. A. Starr, New York.
5. Present Status of the Radical Mastoid Operation for Cure of Chronic Purulent Otitis Media. W. C. Phillips, New York.
6. *Hydrotherapy in Treatment of the Insane. G. Stockton, Columbus, Ohio
7. *Study of the Diathetic States. C. T. Nesbitt, Wilmington, N. C.
8. Three Cases of Cephalocele in One Family. J. Phillips, Cleveland.
9. Treatment of Secondary Anemia of Tuberculosis with Hypodermics of Iron. L. S. Peters, Silver City, New Mexico.

4. **Medical Profession and the Public.**—Starr discusses the duties and opportunities of the medical profession in relation to the public, and details the directions in which the public requires education by the profession; the legislature requires its assistance in framing laws; and the individual will come to rely on it more and more for personal direction. In regard to the fact that judicious and well-considered legislation may in itself become an efficient educator, he cites the following specific cases ("Diseases of Occupation."—Oliver): In Staffordshire, England, over 50,000 persons are employed in the manufacture of china and earthenware. Ten years ago the large number of cases of lead poisoning in this district caused so much comment and criticism that the Home Secretary appointed a commission to ascertain how the danger might be removed. That commission recommended that the percentage of lead could be much reduced in the glazes and in some could be eliminated. The manufacturers protested, maintaining that their methods could not be changed. The matter was finally arbitrated, and the result was that lead employed in the process was reduced from 20 or 15 per cent. to 5 per cent., a monthly medical examination of workers was made obligatory, overall and head coverings were provided and maintained by employers for women, respirators were to be worn by persons specially exposed, and the floors of workrooms were to be sprinkled and swept daily, and a scheme of compensation for lead poisoning was arranged. Under these rules the trade has been working since 1903, and the number of cases of lead poisoning has been reduced over one-half. This illustrates how legal enactment is necessary in some cases to enforce conditions that are needed for the prevention of disease.

6. **Hydrotherapy in Insanity.**—Stockton discusses the applications of hydrotherapy in neurasthenia and certain forms of insanity. Hydrotherapy to-day is largely administered on a physiologic basis. Almost every organ of the body is in reflex relation to the adjacent skin. Among the effects obtainable by water may be mentioned the following: Tonic, sedative, eliminative, diuretic, expectorant, antipyretic, antiphlogistic, hemostatic, hemagogic, analgesic, vasodilator, constrictive, etc. Stockton discusses its method of application and use in neurasthenia, insomnia, melancholia, dementia præcox, hysteria, puerperal insanity, etc. It can not, however, be properly applied unless the physician has skilled operators to carry out his directions, but while a medical man should have general supervision and should be capable of prescribing certain baths, indicated in various forms of insanity, nevertheless a great deal of latitude should be allowed to those who administer the treatment.

7. **Diathetic States.**—Extended inquiry has led Nesbitt to the conclusion that the diatheses make possible the establishment of the great majority of diseased conditions in which there is progressive, structural degeneration. It must, therefore, be possible to determine the relationship existing between the depraved nutritional states and the diseases, and to prevent their development in the young. He adopts Bouchard's classification of diatheses into scrofulosis and arthritism, and considers that the investigator should be able to arrive at a reasonably sure conclusion from such data as height, weight, color of hair, eyes, habits, temperament, illness, etc. He has adopted this course in collecting the cases now presented, and has not included any in which he could not reasonably establish the health states in a majority of the individual progenitors. The history of the heredity element in cancer cases led him to the following conclusions:

The development of malignant neoplasms is furthered, if not caused, by the admixture of the two diathetic states in procreation:
The preponderance of scrofulosis in the diathetic history is probably essential to the production of cancer.
The great majority of cancerous individuals are the result of procreation by two, of whom one is arthritic and the other scrofulous.
Transmission of diatheses is most often from father to daughter, and from mother to son, as has been determined with reference to other hereditary transmission.
Preponderance of arthritism over scrofulosis in the ancestry of an individual is a possible factor in the production of renal cancer, when the individual has had a cancerous ancestor.

The conclusions he draws from his diabetes cases are:

Diabetes mellitus is possibly the result of the transmission of the arthritic diathesis through several generations, in which there has been little or no marital admixture of scrofulosis.
Scrofulosis is unimportant in the etiology of this disease.
The production of diabetes mellitus in the majority of instances depends on the further development of the nutritional fault that has been inherited.

From his investigations into nephritis he concludes as follows:

Intensification of the arthritic diathesis through hereditary transmission is the most probable predisposing cause of chronic progressive renal degeneration.
Alcoholism in the ancestral and personal history of the individuals who are essentially arthritic, is the most important precipitating cause of chronic nephritis.
It is possible that alcoholism and renal disease combined in the heredity of an individual predispose to the parenchymatous type of nephritis.
The other etiologic factors recognized in the production of chronic nephritis are secondary in importance, and contribute in a general way only to the development of the disease.
Scrofulosis is important in the etiology of nephritis as a remotely contributing factor.

9. **Hypodermics of Iron in Tuberculous Anemia.**—Peters concludes from 42 cases of secondary anemia accompanying tuberculosis, that excellent results can be obtained by hypodermic injections of iron. The results are obtained in nearly every case with 20 injections. The following formulas are used:

	Gm.	Gr.
1. Iron citrate	.05	3/4
2. Iron citrate	.05	3/4
Sodium arsenate	.005	1/12
Strychnin sulphate	.0005	1/100
3. Iron citrate	.05	3/4
Sodium arsenate	.001	1/30
4. Iron citrate	.05	3/4
Strychnin sulphate	.001	1/30

The citrate of iron is the one best suited for anemia alone. By using the preparation of iron, strychnin and arsenic, one gets the action of iron plus the tonic effects of the arsenic and strychnin.

New York Medical Journal.

October 10.

10. Mechanico-Biologic Standpoint in Medical Problems. J. Wright, New York.
11. Urologic Department of the German Dispensary. F. Bierhoff, New York.
12. *First American Medical School. J. J. Walsh, New York.
13. *Stomach and Intestinal Gases. S. Basch, New York.
14. *Electrotherapeutics. M. K. Fisher, Philadelphia.
15. *Conservatism in Surgery of the Hands. J. A. Hofheimer, New York.
16. Splenic Anemia. Splenectomy. Blood Changes. I. H. Levy, Syracuse.

12. **The First American Medical School.**—It is commonly said that the first courses in medicine in America were delivered in Philadelphia in 1765, by Dr. Morgan and Dr. Shippen. Walsh points out that a chair of medicine was established at the University of Mexico in 1578 or 1580. He relates its history and reviews its subjects of study; a list is extant of all the professors who have occupied it down to the nineteenth century. A public teacher of medicine was appointed half a century before this chair was founded, namely, in 1525. Walsh mentions it as a noteworthy fact that a man had at that time to spend seven years at the university before he received the degree of doctor of medicine. Walsh considers it fortunate that we are gradually returning to this position.

13. **Stomach and Intestinal Gases.**—Basch discusses first the stomach gases as follows: 1. Oxygen and nitrogen from air swallowed with, or independently of, eating or drinking. 2. Carbonic acid, nitrogen, sulphuretted hydrogen, ammonia and other gases contained in foodstuffs, beverages, medicated liquids and mineral waters. 3. Gases originating within the stomach itself, from fermentation by micro-organisms in the early stages of the normal gastric digestion. Under pathologic conditions, such as ulcerating carcinoma, abscess of the stomach wall, stagnation of stomach contents, etc., besides these gases, sulphuretted hydrogen, marsh gas and other hydrocarbons may be formed. He cites the results from some of his own analyses. He then discusses the sources and varieties of intestinal gases: 1, They enter the bowels from the stomach; 2, they pass into it by diffusion from the blood; 3, they are formed within the gut itself; this last is the most important source.

14. **Electrotherapeutics.**—Fisher describes the uses of electricity in therapeutics, but differs from many others in asserting that "even if it does no good it never harms."

15. **Conservative Surgery of the Hands.**—Hofheimer reports a series of cases to support a plea for giving Nature a chance, even in apparently hopeless cases, instead of resorting at once to operative measures.

Lancet Clinic, Cincinnati.

October 3.

17. Latest Verdict of Science on the Alcohol Question. J. H. Kellogg, Battle Creek, Mich.
18 Dante: Physician. (Continued.) A. G. Drury, Cincinnati, O.
19 Obscure Fractures Discovered by *X*-ray Examination. S. Lange, Cincinnati.

October 10.

20 *National Department of Public Health in Relation to the Anti-Tuberculosis Problem. C. A. L. Reed, Cincinnati.
21 Osteomyelitis of Adolescence. W. E. Savage, Cincinnati.
22 Introductory to Course of Lectures for Nurses. M. K. Isham, Columbus.
23 Dante: Physician (Continued.) A. G. Drury, Cincinnati.

20. An abstract of this article will appear in our report of the International Congress on Tuberculosis, in Society Proceedings.

Medical Fortnightly, St. Louis.

October 10.

24 *Method of Sydenham Greater than the Method of the Laboratory. B. Holmes.
25 Touring the Lands Where Medical Science Was Evolved. R. G. Eccles, Brooklyn, N. Y.
26 Relief on Retention of Urine by Suprapubic Catheter. W. T. Belfield, Chicago.
27 Acute Suppurative Perforating Appendicitis Complicating Typhoid. J. McHale, St. Louis.

24. **Clinic vs. the Laboratory.**—Holmes says that the specific gravity of the urine, the temperature of the patient, the number of corpuscles in a cubic millimeter of his blood, the rapidity of his respirations and heart beats, are quantitative acts of indubitable verity, but the indescribable odor of a patient with smallpox, the feces of a typhoid or pneumonia patient, the attitude of a sufferer from posterior urethritis, are quite as safe data for diagnosis, though they do not submit to instrumentation. It is not necessary for the experienced engineer to go over every bolt and joint of his engine to find out where and what the trouble is. He catches the sound and sees the symptom, while the novice would be hopelessly hunting or ignorantly unsuspicious of danger. If the laboratory man remains a laboratory man he is hopeless as a physician. The clinical method uses the exact methods of the laboratory as far as they go, and the methods of induction and deduction elsewhere. The great deductions of medicine that have helped humanity and relieved distress have come, not through the laboratory, but through the clinical method, and in the future, as in the past, it will be through the broad deductions of the clinician based on a foundation of detail well learned in the laboratory—which, however, will always be a minor and subservient method—that the great future contributions to our knowledge will come.

Virginia Medical Semi-Monthly, Richmond.

September 25.

28 *[illegible] Neuroses by Bier's Hyperemia. A. Gor- [illegible]
29 [illegible] umonia—Acute Dilatation of Stomach. Double Empyema with Drainage of Both Pleural Cavities. W. W. Dunn, Richmond, Va.
30 Relation of Pathology to Modern Surgery. J. S. Horsley, Richmond, Va.
31 *Should We Have a Bureau of Health? J. G. Bulloch, Washington, D. C.
32 Cataphoresis. M. W. Peyser, Richmond, Va.
33 Case of Ectopic Gestation That Went Beyond Full Term. H. W. Lewis, Richmond, Va.

28. **Constriction Hyperemia in Neuroses.**—Gordon makes a further report on six additional cases of neuroses, treated with favorable results by the use of Bier's method. The cases are acroparesthesia, writer's cramp, telegrapher's cramp, brachial neuralgia, a paroxysmal cramp in a bricklayer, and paresthesia in a seamstress.

31. **Bureau of Health.**—Bulloch urges that a health officer should be appointed by the government, whose duty it should be to visit all the buildings and the employes and see that every individual is free from contagious diseases, and that the offices, etc., are in a sanitary condition. Not only should all immigrants be inspected, as is now done, but there should be a general inspection of all buildings, and the question of child labor and sweat shops, and other matters too numerous to mention, should be looked into. An important matter calling for the closest scrutiny, which may not only jeopardize the health of the many, but seriously affect the farming interests of this country, is the serious disease called "pellagra," said to be caused by eating damaged maize, or Indian corn. If it is true that pellagra is due to maize, damaged or otherwise, it becomes a serious consideration, for this grain is not only a western but a southern staple. If it is not true that maize is the cause, then the assertion should be contradicted. If it is true that only the damaged maize is a factor, it is important that steps should be taken to protect the public against eating an article which is productive of so serious a disease. A bureau of health could look into all these matters, and be of untold benefit to our citizens and country.

Archives of Internal Medicine, Chicago.

July.

34 *Nature of Shock. S. J. Meltzer, New York.
35 *Chloroform Necrosis of the Liver. H. G. Wells, Chicago.
36 *Morphology of the Blood in Pertussis. J. H. Barach, Pittsburg, Pa.
37 *Experiments with an Ash-Free Diet. H. W. Goodall and E. P. Joslin, Boston, Mass.
38 *Inhibition of Pancreatic Activity by Extracts of Suprarenal and Pituitary Bodies. R. Pemberton and J. E. Sweet, Philadelphia.
39 *Clinical Value of the Quantitative Estimation of Pepsin. C. B. Farr and E. H. Goodman, Philadelphia.

34. **Shock.**—Meltzer recapitulates the history of our knowledge of shock up to the time of Crile's experiments, which,

with the theory founded on them, have been widely accepted in the surgical world, especially in the United States and England. He refers to the divergent views of Boise and Malcolm as to the interpretation of Crile's results, and the further studies of Howell and Porter. He adds: "This brief review will suffice to show that the experimental era has not yet solved the mystery of shock, and that the bringing forward of new experimental facts capable of shedding some more light on our puzzling problem is not yet a superfluous luxury." Meltzer's experiments were not undertaken with a view to determining the nature of shock. The first series deals with the motility of the gastrointestinal canal. He found that the simple opening of the abdomen appeared to suppress the regular movements of the stomach and cecum. He then carried out experiments to discover the cause and nature of this suppression. From these experiments he considers the following conclusions safely established: Simple dissection of the skin over the abdomen presents a distinct stimulus; this stimulus, when the corresponding part of the spinal cord is intact, causes a reflex of undoubtedly inhibitory character; when the cord is destroyed the opening of the abdomen brings on a stimulation of peripheral inhibitory mechanisms; and, therefore, when the cord is intact, the opening of the abdomen is instrumental in bringing out a two-fold inhibition—a reflex inhibition and an inhibition of a local peripheral mechanism. The experiments of Cannon and Murphy (THE JOURNAL, Sept. 7, 1907, p. 840), Meltzer asserts, verify these conclusions. He then asks: What is the nature of that condition which we term shock? We are in the habit of expecting a stimulus to produce or increase an activity. In shock the activity of the functions is depressed or suspended. By what method do the stimulating injuries cause this depression or suspension of activity. He ventures the assumption, which is not new, that the various injuries which are capable of bringing on shock, do so by favoring the development of the inhibitory side of all the functions of the body. This predominance of inhibition makes its appearance at first in those functions which are of less immediate importance to life, and are, therefore, less insured by safeguards protecting their equilibrium. With increased injury the inhibition spreads also to the more vital and, therefore, better protected functions of the nervous system. The early inhibition in the development of shock, of the functions of lesser importance, might even be looked on as being, in a degree, conservative measures of protection of other more important functions of animal life. The restfulness of the body, the painlessness and mental indifference, are certainly most desirable conditions in the management of shock of the more vital functions.

35. **Chloroform Necrosis of Liver.**—Wells describes carefully a case and says that the cases of delayed chloroform poisoning described in the literature apparently tend to group themselves into two classes. In one, chiefly children, the symptoms are those of "acidemia," or "acetonemia," without jaundice, and in these cases the changes of the liver are not very marked, consisting, according to the published descriptions, chiefly of fatty degenerations about the periphery of the liver lobules. The other type is observed chiefly in young adults and clinically is marked by profound jaundice, cholemia, hemorrhage, and the usual symptom-complex of a rapidly fatal acute yellow atrophy of the liver; anatomically the liver appears much as it does in acute yellow atrophy, being reduced in size, flabby, yellow, and showing microscopically an extreme degree of necrosis, beginning in the center of the lobule, with more or less peripheral fatty degeneration. Intermediate cases occur that do not fall distinctly into one or the other of the two types. The condition in the second set of cases resembles closely that of typical acute yellow atrophy of the liver, except in the greater tendency to fatty changes. Nevertheless, it seems best for the present to reserve the term acute yellow atrophy to that form of liver necrosis and autolysis which occurs idiopathically and which presents certain features different from chloroform necrosis, puerperal eclampsia and phosphorus poisoning, and which is possibly due to some specific cause. The fact that chloroform seems particularly to affect livers in which fatty degeneration has been previously produced by some other disorder, may possibly be due to the known absorption of chloroform by intracellular fats, which in this case would increase the concentration and duration of action of the chloroform in the degenerated liver cells. Chloroform is a violent protoplasmic poison, and if it were to inhibit or destroy the oxidizing enzymes of the liver cells, the results would presumably be the same as those characteristic of chloroform necrosis; hence it seems probable that chloroform produces its effects by acting on the oxidizing enzymes, without corresponding inhibition of the autolytic enzymes and the lipase of the cells.

36. **The Blood in Pertussis.**—Barach reviews the history of the study of the blood in pertussis and reports the details of blood study in 50 cases of his own. He emphasizes the distinct value of blood examination in the early diagnosis of the disease, and describes the blood cycle as follows: There is at first a leucocytosis with increase of all the forms; then a small cell lymphocytosis becomes conspicuous and continues to increase when the other forms have reached their limit. The large lymphocytes follow the course of the small ones, but they reach their greatest numbers after the small cells have reached theirs. During the stage of active lymphocytosis bi-lobed small lymphocytes are frequently seen as well as numerous degenerated large lymphocytes, especially the basket forms. Then comes the simultaneous falling of the leucocytosis and lymphocytosis, while the polynuclears begin to resume their normal proportion. A little later, the mast cells are observed more frequently, and an occasional myelocyte may be seen. While the leucocytosis and lymphocytosis continue to fall by lysis, an eosinophilia is noted; this continues for a variable time, after which the blood formula resumes its normal proportion. During this entire cycle the transitionals seem unaffected. Clinically, leucocytosis is present at about the time the child first coughs; as coughing goes on the leucocytosis increases and the lymphocytosis becomes marked. The height of the leucocytosis is reached in the spasmodic stage, sometimes early, and sometimes in the latter part, the sickest children showing the highest grade of leucocytosis. About the time that a marked improvement is noted in the child the leucocytosis has decreased, the polynuclears have increased, and the eosinophilia is present. This eosinophilia continues for a variable time.

37. **Ash-Free Diet.**—Goodall and Joslin report their experiments in detail, but state that they do not consider that they afford a basis for any far-reaching deductions as to changes in metabolism, and that they certainly give no support to the view that the withdrawal of salts from the diet will cause an acidosis of the acetone variety. Clinical observations on the effect of the diminution of salt in a severe case of diabetes are in harmony with their experiments.

38. **Suprarenal and Pituitary Bodies as Inhibitors of Pancreatic Activity.**—Pemberton and Sweet detail their experiments and summarize their conclusions as follows:

> 1. The suprarenal glands and the nervous moiety of the pituitary body in dogs contain something which, on extraction with salt solution and intravenous injection into dogs, cuts short the flow of pancreatic juice, after the administration of secretin. It also prevents the stimulation of the gland by secretin if its injection precedes the secretin.
> 2. This feature has not been found, to date, in any other tissues.
> 3. It is independent of the general rise in blood pressure seen after the intravenous injection of adrenalin and pituitary extracts.
> 4. The inhibitory factor of extracts of the suprarenal glands seems to disappear by decomposition, oxidation or other process, before the blood pressure raising element is gone. It would appear that the suprarenal and the pituitary bodies have at least one property other than those qualities generally recognized as present in them.

39. **Quantitative Estimation of Pepsin.**—Farr and Goodman enumerate the various procedures, with description of methods, for the quantitative estimation of pepsin, and report their own studies. They state that pepsin determination seems to be of value in distinguishing simple gastritis and neuroses from achylia and carcinoma. In the last two, the pepsin is invariably very much diminished, whereas in the first two it is unaffected or only slightly altered. Herein they disagree with Witte, who found that pepsin was always low in neuroses.

The wide variations in the pepsin values would suggest that the drug has been too much despised by stomach specialists, though this can not be said of practitioners in general. It would seem to be indicated in cases showing subnormal peptic values, with preservation of at least a fair degree of acidity. In chronic gastritis with low acidity and low pepsin, in achylia and in carcinoma it would be necessary to add hydrochloric acid. In many cases it is doubtful if enough acid could be introduced, except occasionally with a stomach tube, to allow of normal proteolysis. A practical expedient (Sailer) is to saturate meat or milk, before taking, with dilute hydrochloric acid until free acid can be detected, after which a small dose of hydrochloric acid will suffice. Pepsin should be given in sufficient amounts to make a solution of from 1/4 to 1/16 per cent. in the contents of the stomach (estimated in advance). It should be given with or followed by at least twenty minims of dilute hydrochloric acid. Both may be repeated once or twice at short intervals to make up for the amount expelled in the duodenum.

Bulletin Johns Hopkins Hospital, Baltimore.

September.

40 *Pro-Infective ("Agressive") Action of Normal Blood Serum. R. I. Cole and M. R. Smirnow, New Haven, Conn.
41 Acute and Chronic Gastromesenteric Ileus, with Cure in a Chronic Case by Duodenojejunostomy. A. L. Stavely, Baltimore.
42 *Statistics of Tuberculous Peritonitis from the Clinical Records of Johns Hopkins Hospital. L. Hamman, Baltimore.
43 *Action of Lecithin in Exophthalmic Goiter. H. J. Berkley, Baltimore.
44 Amboceptors and Complement in Typhoid Sera. H. S. Denison, Baltimore.
45 *Hemolytic Action of Bile, and Its Inhibition by Blood Serum. A. W. Sellards, Baltimore.
46 Effect of Heated Serum on Rouleaux Formation of Red Blood Corpuscles. A. W. Sellards, Baltimore.
47 Instrument for the Determination of Venous Pressure in Man. D. R. Hooker and J. A. E. Eyster, Baltimore.
48 A Family of Hemeralopes. J. Bordley, Baltimore.

40. **Normal Blood Serum.**—Cole and Smirnow refer to the substances found in blood serum which give it an action directly antagonistic to infection, but cite the experiments of Bail and others as indicating that under certain circumstances serum, or more particularly serum from exudates, may exert an influence directly favoring infection. They report a series of experiments of their own, which seem to show that blood serum may exhibit an effect directly contrary to what has been considered the usual one. Instead of killing the bacteria, or at least rendering them harmless, or of neutralizing their poison, foreign serum, when injected into an animal may increase its susceptibility or may render the bacteria simultaneously injected more virulent. They question whether the results obtained by Bail and others with so-called natural aggressins may not have been due, in part, at least, to the injection of serum together with the bacterial cultures, and not to any specific substances contained in the exudate.

42. **Statistics of Tuberculous Peritonitis.**—Hamman has gone over the records of the cases of tuberculous peritonitis that occurred in Johns Hopkins Hospital during the first fifteen years of its life, and has added a few subsequent histories to make the total number 150. The family history is of importance chiefly as an index of exposure. While many cases came on abruptly with well-defined symptoms, in many patients the disease was well advanced before attracting attention. The most important symptoms and clinical findings during the course of the disease are as follows:

One hundred and four patients complained at some time of abdominal pain. This is the most constant and most important of all the symptoms.

Forty-two patients had vomiting and fifty-one nausea.

Forty-eight patients were constipated, thirty-three had diarrhea and four alternating constipation and diarrhea.

Six had blood in the stools. In one of these tubercle bacilli were found in the feces; two more came to autopsy and both showed tuberculosis ulcers in the intestine.

Eleven complained of pain in the chest; four of these had pleurisy, three pulmonary tuberculosis, three both pleurisy and pulmonary tuberculosis and one probably pulmonary tuberculosis.

Forty-seven patients had cough; in 34 there was clinical evidence of pulmonary disease; three more of the forty-seven came to autopsy and all showed pulmonary tuberculosis.

Thirty patients complained of dyspnea; twenty-four of these had pulmonary lesions.

The author emphasizes among tuberculous complications the fact that in about 50 per cent. of medical cases tuberculous lesions elsewhere were discoverable clinically. In obscure abdominal conditions a pleural rub, râles at an apex, enlarged glands, or a nodule in the epididymis, may give the diagnosis. In 70 per cent. of cases the blood count is under 10,000, and in 83 per cent. under 43,000. The 11 patients with higher counts had complications. Bloodgood suggests this as a diagnostic feature. The following points are brought out: 1. The great rarity of even apparently primary peritoneal tuberculosis. 2. The great frequency with which more than one serous membrane is affected. 3. In one case a colored boy was admitted six times with the diagnosis of tuberculosis of serous membrane—first the peritoneum, then the pleuræ, then the pericardium. At autopsy there was found an old fibrous peritonitis, pleuritis, and pericarditis, but the only definite tuberculous lesion in the body was a small calcareous nodule in the lung. This case belongs to the group called multiple serosites, or polyorthomenitis, certain of which are definitely tuberculous, but the tuberculous nature is not commonly apparent. Tuberculous peritonitis is a fatal disease, and even when there is improvement, the after-results are not brilliant.

43. **Lecithin in Exophthalmic Goiter.**—For the past three years Berkley has used an alcoholic solution of lecithin, with excellent results in many cases of asthenia (not psychasthenia) and much more recently has extended its service to a few cases of exophthalmic goiter with strikingly favorable effect. Notwithstanding the nauseous and disagreeable odor of the solution, the patients cling to it until the nervous symptoms are allayed. All these patients placed on it, state that an hour after the medicine is taken, "the nerves" are quieted and there is a cessation of acute symptoms. Berkley tried it for alternate weeks with glycerophosphates, quinin, and gentian, and the patients lost weight, with increase of nervous phenomena on the glycerophosphates, and gained weight, with abatement of nervous symptoms, on the lecithin. Lecithin is out of place with disturbed digestion, and it fails without the assistance of a milk diet. The author discusses its action and describes the histories of four cases of exophthalmic goiter, two of severe type, in which this treatment proved beneficial. He suggests a further trial of the combination of lecithin and milk, to contract the disordered forces of the thyroid.

45. **Hemolytic Action of Bile.**—Sellards describes experiments with reference to the toxic action of bile and the normal mechanism for protection against this action. He draws the following conclusions: 1. Bile and bile salts are active hemolytic agents *in vitro*. 2. Normal serum protects against the hemolytic action of bile. In serum dilutions as high as 1 to 3000 a trace of this protective action still persists. Precipitation of the proteids by heat does not affect this inhibitory property of the serum. These facts have a direct bearing on the explanation of acute hemorrhagic pancreatitis, following the injection of bile. There is necrosis of the pancreas, caused by the bile, and the hemorrhage would presumably tend to neutralize the action of the bile. Except for the protection afforded by the blood serum, a simple catarrhal jaundice might perhaps be followed by serious consequences, such as the development of a severe secondary anemia.

Interstate Medical Journal, St. Louis.

September.

49 *Superior Alternate Hemiplegia—Gubler-Weber Type. S. E. Jelliffe, New York City.
50 *Exophthalmic Goiter plus Surgical Lesions. V. P. Blair, St. Louis.
51 Traumatic Venous Thrombosis. W. P. Kendall, U. S. Army.
52 *Some Vital Points in Tuberculosis. L. M. Warfield, St. Louis.
53 Sigmoiditis. W. H. Stauffer, St. Louis.

49. **Superior Alternate Hemiplegia.**—Jelliffe describes in detail three cases exhibiting the Gubler-Weber syndrome. He remarks that the parallelism in these three cases is striking. They are typical illustrations of the Gubler-Weber syndrome, the first case showing the symptoms at the onset, with flaccid paralysis and loss of knee-jerk, no Babinski, no contractures as yet; whereas the second case shows the later stages when contractures and spasticity have set in, with increased reflexes throughout. The third case is typical of those that go on to death by exhaustion. He discusses the arterial supply

to the cerebral peduncles, the rupture of which is the cause of hemorrhages or softening, and looks for the interpretation of the lesion in his cases to a hemorrhage of the artery of the third nerve nucleus.

50. **Exophthalmic Goiter.**—Blair reports three cases illustrating the following points: The influence of exophthalmic goiter on the immediate result of the operation, the possible subsequent influence of an operation on the goiter and the relation of the goiter to the postoperative condition.

52. **Tuberculosis.**—Warfield emphasizes the following points: Diagnosis can only be learned from clinics, not from books or medical articles. It is of the utmost importance to bear in mind that the finding of bacilli is not necessary for a final diagnosis. An open but critical attitude of mind is the first essential; then a careful history, a thorough examination of the bared chest, with a good light on it, trained sight, touch, and hearing, careful re-examination of the patient, and repeated examination of the sputum. He discusses the question of hemoptysis, and entirely rejects the idea held by some that patients having frequent hemorrhages do better than those who never spit blood. He considers the question of going away to a different climate, and holds that it is only occasionally that it is sound advice to urge the patient to go away. Climate is an excellent adjuvant, but never yet accomplished alone a cure of tuberculosis. "Let the tuberculous do in his own climate what he does in some health resort, and the results will be just as good, if not better." Warfield regards the advice given frequently to patients, to work and exercise, as fatal. It is rest that is needed, and when there is fever, rest in bed. Exercise has its distinct place in treatment, but it is a therapeutic measure that should be regularly supervised by the physician who understands its limitations. Attention to every detail of the patient's life increases his chance of cure. If every physician examined carefully every patient with cough or rapid loss of weight, there would be fewer advanced cases of tuberculosis.

Journal South Carolina Medical Association, Greenville.

September.

54. Value of X-ray Photography in the Treatment of Fractures. S. C. Baker, Sumter, S. C.
55 *Adjuvants to Nutrition and Fresh Air in Laryngeal and Pulmonary Tuberculosis. W. P. Porcher, Charleston, S. C.
56. The Physician as a Political Factor. F. J. Carroll, Summerville, S. C.
57. Some Disadvantages in Prescribing Proprietary Preparations. J. B. Townsend, Anderson, S. C.
58. Skin Grafting. M. R. Baker, Columbia, S. C.

55. **Laryngeal and Pulmonary Tuberculosis.**—Porcher calls attention to certain adjuvants to fresh air and nutrition in the treatment of laryngeal and pulmonary tuberculosis. 1. Attention to nasal obstruction; 2, counter-irritation, the value of which he illustrates by pointing out the well-known effect which a fistula-in-ano has, and the danger of closing it in a tuberculous person; 3, the value of nebulized spray of mentholated petrolatum with eucalyptol in tuberculous, or, indeed, any cough; 4, treatment of constant indigestion and obstinate constipation. He has had happy effects from the use of tincture of aloes, nux vomica, physostigma, and belladonna, with fluid extract of stillingia sylvatica; 5, rest is important wherever tissue waste is excessive and temperature is raised. Porcher discusses the value of tuberculin treatment, which properly used is great, but states that it should never be used therapeutically when there is a rise of temperature, and the production of a reaction should be avoided.

Colorado Medicine, Denver.

September.

59. The Value, from a Therapeutic Standpoint, of an Accurate Diagnosis in Cardiac Lesions. W. R. Tyndale, Salt Lake City, Utah.
60. Aneurism of the Thoracic Aorta. A. C. McClannahan, Victor, Colo.
61 Outdoor Life and Rest in the Treatment of Tuberculosis. F. R. Smith, Grand Junction, Colo.
62. *Non-Specific Ulceration of the Bones of the Nose and Face. F. H. Welles, Grand Junction, Colo.

62. **Non-Specific Ulceration of Face.**—Welles reports three cases of ulceration of the bones of nose and face in which syphilis was excluded, because of (a) absence of specific history; (b) absence of concomitant lesions; (c) negative effect of active specific treatment; (d) absence of periosteal and osteoplastic processes, resulting in hyperostosis, sclerosis, and repair of defects, characteristic of syphilitic lesions, and (e) operative results. There was no history of infectious disease to cause a suspicion of secondary infectious osteomyelitis. Osteomalacia, rarefying osteitis, varying forms of atrophy, metallic poisoning, and rheumatism, were all excluded. Two of the patients were repeatedly examined by well-known clinicians and no etiologic factors were found unless possibly some decomposition of intestinal contents, as shown by slight indicanuria. He concludes practically as follows: In these cases there was no regional pressure anemia or obstruction to drainage, and, in view of the absence of a specific organism known to be causative of such extensive continuous lesion in the face of fairly normal systemic conditions, he is forced to conclude that unknown possibilities lie in the power of the microbic flora so exuberant in these cases, and that the point of infection was to be found in some abrasion of the mucosa probably effected by the finger nail.

Journal Michigan State Medical Society, Detroit.

September.

63. *Diagnosis of Obstruction of the Esophagus. G. Dock, New Orleans, La.
64. *Acute Peritonitis. W. F. Metcalf, Detroit.
65. Value of Uranalysis in Recognition of Disease. A. T. Godfrey, Holland.
66. *Conservatism in the Surgery of the Uterine Adnexa for Preservation of the Possibility of Pregnancy. G. Van A. Brown, Detroit.
67. *The Country Surgeon. H. B. Garner, Traverse City.

63. Abstracted in THE JOURNAL, Aug. 22, 1908, p. 699.

64, 66, 67. Abstracted in THE JOURNAL, Aug. 29, 1908, pp. 784-786.

Journal Kansas Medical Society, Kansas City.

September.

68. *Vaccines in Chronic Otitis Media. W. K. Trimble, Rosedale.
69. Convulsions, the Result of Complete Vaginal Atresia. G. B. [illegible]
70. Nervous Diseases. A. Haggart, Ottawa.
71. T. D. Blasdel, Garnett.
72. Opsonins and Agglutinins. L. R. Sellers, Osawatomie.

68. **Vaccine Treatment in Chronic Otitis Media.**—Trimble reports four consecutive cases of otitis media, treated successfully with vaccines, the organisms being respectively *Staphylococcus aureus*, two cases, *Bacillus pyocyaneus*, one case, and *Bacillus pyocyaneus* with *Staphylococcus albus*, one case. He considers that all cases of chronic otitis media in which symptoms are scarcely such as to justify operation should be given the vaccine treatment.

Western Medical Review, Omaha.

September.

73. Prevention and Treatment of Puerperal Infection. O. and G. A. Grothan, Kearney, Neb.
74. *Coronary Artery Sclerosis. A. D. Dunn, Omaha.
75. *Treatment of Deformities by Plaster-of-Paris and Other Mechanical Devices. H. W. Orr, Lincoln, Neb.

74. **Coronary Artery Sclerosis.**—Dunn sketches the etiology and pathology of this condition, its causative relationship to chronic heart muscle insufficiency, the clinical manifestation of the latter in so far as they pertain to coronary artery disease, and its prognosis, with therapeutic hints. The treatment can only be retardative, but time may be added to life and usefulness of the individual. Everything must be done to strengthen the heart and to prevent decompensation. Everything tending to hypertension must be avoided. Mild exercise under a medical gymnast is beneficial. Sudden and overtaxing exertion and great mental excitement should be avoided. Abundant sleep and rest are enjoined, diet must be regulated, a lactovegetarian diet is recommended, and the use of tobacco must be limited. To relieve portal stasis a proper laxative effect is best obtained by salines, especially saline aperient waters, but it must be remembered that excessive fluids increase cardiac labor. An occasional dose of calomel or gray powder is useful. The iodids are often beneficial by decreasing the viscosity of the blood in cases of severe circulatory disturbance. Morphin is indicated by insomnia or attacks of

asthma. It is the best drug in heart muscle degeneration in doses of from ⅛ to 1/10 grain hypodermically. Heroin, 1/6 to 1/12 grain, is often a good substitute.

75. Abstracted in The Journal, July 4, 1908, p. 67.

American Journal of Public Hygiene, Boston.

May.

76. Use of Smith's Solution and Bile Media. L. V. Parker.
77. Method for Calculating the Numbers of *B. Coli* From the Results of Dilution Tests. E. D. Phelps, Boston.
78. Normal Waters of Illinois. E. Bartow.
79. Antiseptic and Germicidal Properties of Solution of Formaldehyd and Their Action on Toxins. J. F. Anderson, Boston.
80. Specific Nature of Anaphylaxis. M. J. Rosenau and J. F. Anderson, Boston.
81. Method of Determining Total and Volatile Suspended Matter in Sewage. C. B. Young and C. F. Long.
82. Transmission and Methods for Control of Tuberculosis. D. D. Brough, Boston.
83. Function of Health Boards in Control of Tuberculosis. E. Otis, Boston.

Southern California Practitioner, Los Angeles.

September.

84.* Fifty Abdominal Sections for Various Conditions. M. A. Rogers, Tucson, Ariz.
85. Ocular Symptoms of Cerebral Concussion, *Contusion and* Compression. F. W. Miller, Los Angeles.
86. Camp Sanitation and Military Hygiene. P. A. Adams, Los Angeles.
87. Medical Legislation: Suggestions for the Arizona Medical Association. C. E. Yount, Prescott, Ariz.
88. Effects of Faulty Eye, Ear, Nose and Throat Conditions on *the Mental Development* of School Children. Herbert F. True, Los Angeles.

Journal of Inebriety, Boston.

Autumn.

89. The So-called Stimulating Effect of Alcohol on Protoplasm. W. H. Kesteven.
90. Treatment of Inebriety by Hypnotic Suggestion. J. D. Quackenbos, New York.
91. Great *Temperance Pioneers in the Medical Profession and* Their Work for the Last Century. H. O. Marcy, Boston.
92. Inebriety in Its Relations to Crime. G. F. Lydston, Chicago.
93. Accuracy in Clinical Study of Mental and Nervous Disorders from Alcohol. J. M. Aiken, Omaha, Neb.
94. Alcohol and Moral Degeneracy. D. H. Kress, Washington, D. C.

Journal Oklahoma State Medical Association, Guthrie.

September.

95. Unusual Gunshot Wounds. D. A. Myers, Lawton.
96. Hernia. G. A. Boyle, Enid.
97. The Physician's Wife. F. E. Waterfield, Holdenville.
98. Examination of the Patient. J. H. Barnes, Enid.

Ophthalmic Record, Chicago.

September.

99. Preliminary Report of a Theory of the Etiology, Prevention, *Pathology, Treatment* and Cure of Trachoma. F. B. Eaton, Portland, Ore.
100. Siderosis of the Right Eye, Caused by Pierce of Iron-Scale, Which the *X*-Ray Failed to Locate. H. Muetze, St. Louis.
101. Cultivation of the Meningococcus from Eye Conditions Complicating Epidemic Cerebrospinal Meningitis. H. McKee, Montreal.
102. Piece of Steel Weighing *Less* Than a Milligram, Successfully Removed from Vitreous, with Resulting Normal Vision. C. N. Spratt, Minneapolis.
103. New Knife and Method for Iridotomy. G. B. Jobson, Jr., Franklin, Pa.
104. An Unusual Degree of Myopia in a Pure-Blooded Negro. C W. Kollock, Charleston, S. C.

Atlanta Journal-Record of Medicine.

September.

105. Two Cases of Intestinal [illegible] Showing Unusual [illegible] L. [illegible] Ga.
106. C[illegible] Mole (Myxoma Chorii). J. B. Cranner, [illegible] C.
107. Advantages of Early Operation in Appendicitis, Atlanta, Ga.
108. Abscess of the Brain. R. G. Buckner, Asheville, N. C.
109. Suppurative Leiomyoma of Stomach, with Hour-Glass Contraction. W. W. Battey, Augusta, Ga.
110. Postgraduate Study in Europe. O. H. Johnson, Athens, Ga.

Detroit Medical Journal.

September.

111. Antiquity of Surgery. F. B. Tibbals, Detroit.
112. Dual Action of Narcotic Drugs. O. H. Lau, Detroit.
113. Antituberculosis Work in Grand Rapids. J. Ihlder, Grand Rapids.
114. Effect of Abnormal Conditions in the Nose on Hearing. J. M. DeKraker, Grand Rapids.

Journal of Ophthalmology and Otolaryngology, Chicago.

September.

115. Significance of Certain Eye Diseases and Symptoms in Relation to Disability. W. O. Nance, Chicago.
116. Gonorrheal Iritis. W. M. Beaumont, Bath, Eng.
117. Widening of the Palatal Arch: Its Influence on the Nose and Nasopharynx. L. W. Dean, Iowa City, Ia.

Vermont Medical Monthly, Burlington.

September.

118. Examination and Diagnosis of Rectal Diseases. D. C. Hawley, Burlington.
119. Pneumonia. H. W. Barrows, Stowe.
120. Surgical Service at the Mary Fletcher Hospital. H. C. Tinkham, Burlington.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

September 26.

1 *Itching: Its Causes and Treatment. W. A. Jamieson.
2 Case of *Embolic* (?Thrombotic) Atelectasis of the Middle and Lower Lobes of the Right Lung; Survival. W. B. Shaw and E. M. Corner.
3 Therapeutic Application of Stock Vaccines in Bacterial Infections. J. Matthews.
4 *Vaccines in General Practice. L. Grant, T. H. Campbell and W. D. Anderson.
5 Sanitation of Mines. F. Shufflebotham.
6 *Formic Acid Derivatives in Cancer. J. H. Evans.
7 Case of Ruptured Uterus. A. M. Sorabji.
8 Diffuse Painful *Lipoma of the Foot.* A. H. Tubby.
9 Sanitation in a Territorial Camp. J. S. Warrack.
10 Case of Huntington's Chorea. J. J. W. Evans.
11 French and German for Medical Students. W. Osler.
12 The Lactic Ferments as Therapeutic Agents. F. S. Mason.

1. **Itching.**—Jamieson says that we may interpret itching as "a functional disorder of innervation which may be produced by external or internal causes alike." It is essentially a surface sensation, and its most marked developments are to be found in those lesions that mainly affect the epidermis. Pressure is *inimical* to itching. The proximate cause of itching is closely connected with that of urticaria, more particularly that form known as urticaria factitia, or dermographism, in which the vasomotor mechanism is so sensitive that wheals can be evoked by friction. Jamieson cites Unna's theory, that itching is due to a disproportion between the pressure of the tissue juices and that of the limiting corneous layer, but he considers that we must probably assume, in addition, a degree of hyperesthesia. Scratching indulged in to mitigate the sensation is not in itself harmful; it is the degree to which it is carried, not the act itself, which is injurious. He cites the rough towel, flesh brush, etc., in daily use. He discusses the association of pruritus with parasites and with definite skin disease, and points out that plants as well as insects may set up a dermatitis and induce itching. Poisons generated from within account for the itching in severe jaundice, in Hodgkin's disease, and at the climacteric in women. He discusses pruritus ani, and says that besides threadworms, piles, fissures and prostatic disorders, the liver must be considered assuredly at fault in many cases, possibly as a dependent of some cardiac trouble. Pruritus may be a symptom of pelvic cancer. Pruritus vulvæ suggests glycosuria, not necessarily diabetic, as this form is perhaps more aggressive in stout gouty women, not diabetics. There is a peculiar itching of the fourth toe, and within the meatus of the ear, the nostril and the tongue, which are characteristic minor forms. Itching can not be treated solely as a substantive lesion. Medicated soaps—menthol, nicotin, naphthol, etc.—are useful. A dry surface with slight desquamation suggests warm baths, under blood heat and containing some freshly prepared *starch jelly*, with inunction of glycerin of starch after gentle drying in climacteric cases. A course of subcutaneous pilocarpin injection, administered each night and extended over a couple of weeks, is often useful. Silk, Indian gauze or linen underwear should be worn next to the skin, and if thicker or warmer undergarments are required, they should be worn over *the others*. He goes at considerable length into other forms of *treatment* of itching.

4. **Vaccines in General Practice.**—Grant, Campbell and Anderson report several cases of the use of vaccines in general practice, with the *modus operandi* and the results. In these cases the microscopic work, the electric treatment, the preparation of vaccines, and the opsonic estimations, were all conducted by them in their own laboratory as general practitioners. The satisfactory results they attribute to the vaccines, and they note the following points in those cases treated with tuberculin: 1. The scars resulting were soft, pliable, and the disfigurement slight. 2. Recovery under the treatment seemed

rapid, and this implied saving of suffering and expense to the patient and anxiety to the medical attendants. 3. The absence of severe surgical measures minimized the risk of a general tuberculous infection and obviated that slight risk which always attends general anesthesia. 4. Although opsonic estimations were made only occasionally during the treatment, they suggested that the index was being steadily raised; and from this it is probable that for some time, at least, the patient will be less susceptible to attacks by the same bacterium. Surgical measures alone may achieve this indirectly, inasmuch as they rid the body of the focus of disease, but it is questionable if they are capable of raising the standard of defense to the same high level as that induced by vaccine therapy.

6. **Formic Acid Derivatives in Cancer.**—Evans records the detail of work systematically carried out since October, 1906, in connection with formic acid in cancer. He has employed the following preparations: 1. Formalin; formamint lozenges. 2. Formic acid; formates; glyceroformates. 3. Infusio A. F. (formula of the Cancer Hospital Pharmacopeia); an infusion of the common nettle, either grown under glass or plucked from its beds, according to the season of the year, so that the fresh herb has been regularly used. 4. Nettle fomentations. 5. Douches, irrigations, and rectal injections of formaldehyd and nettle preparations. He reports six cases in which the results were negative, and has no hesitation in stating that no authentic case of carcinoma, as recognized clinically and confirmed by an expert microscopist, has as yet been expurged by ingestion of formic acid.

British Medical Journal, London.

September 26.

13 *Forms of Cardiac Arrhythmia from the Point of View of the Myogenic Theory. W. J. Fenton.
14 Requirements of Modern Surgery. C. H. Hough.
15 Fatty Liver in Kala-Azar. U. N. Brahmachari.
16 *Cases of Vaccine Therapy. W. M. Crofton.
17 *Method of Operating in the Air-distended Urethra. W. W. Powell.
18 *Chronic Inflammatory Conditions of the Oropharynx. P. McBride.
19 *Id. B. Ball.
20 Paralysis of the Sixth Cranial Nerve in Aural Disease. J. S. Barr.
21 New Operation for Depressed Fracture of the Nose. T. G. Ouston.
22 Cervical Tumors Simulating Enlarged Glands Associated with Laryngeal Paralysis. A. Wylie.
23 Use of Bougies for Dilatation of the Infundibulum. D. Grant.
24 Anatomy and Surgery of the Tonsils. J. H. Nell.
25 Some Experiences in Direct Examination of the Larynx, Trachea and Esophagus. A. B. Kelley.
26 Direct Laryngoscopy, Bronchoscopy and Esophagoscopy. E. Waggett.
27 Development of Middle Ear. T. Guthrie.
28 Accessory Air Cells in the Septum Nasi. C. A. Parker.
29 Method of Operating for Pansinuitis. P. W. Williams.
30 Surgical Treatment of Infantile Paralysis. H. Tubby.
31 Hernia in which Meckel's Diverticulum Was Present. H. T. Gray.
32 Two Clinical Types of the Meningococcus and Their Bacteriologic Differentiation. F. C. Eve and J. M. Clements.
33 Treatment of Chorea. W. E. Wynter.
34 *Surgical Treatment of Tuberculous Glands in the Mesentery. E. M. Corner.
35 Practical Points in Treatment of Tuberculosis of the Spine. J. J. Clarke.
36 Two Cases of Pneumococcal Peritonitis in Children. W. H. Bowen.
37 Nephritis in Infancy. G. Carpenter.
38 Ischemic Myositis and Neuritis. W. Harris.

13. **Cardiac Arrhythmia and the Myogenic Theory.**—Fenton enunciates the various theories regarding the cause of the heart beat, and describes the heart and the method of graphically recording the pulse and interpreting the radial tracing. He then discusses the various forms of arrhythmia and their relation to the functions of stimulus production, conduction, irritability and contractility. The first form of arrhythmia—extrasystole—he discusses under two forms, the ventricular and the auricular, and quotes Wenckebach's four classes of subjects of extrasystole: 1, Those in whom nothing can be found; 2, those in whom the irregularity is due to lesions or conditions in other organs, and may be toxic in origin; 3, the aged; 4, those who suffer from definite organic lesions. He next discusses Adams-Stokes disease, or heart block, under defects in conductivity, and finally the pulsus alternans under defects of contractility. He considers that in the light of the myogenic theory and of the knowledge gained by investigation of the events taking place in a cardiac cycle by means of rightly understood graphic records of the venous and arterial pulses, much of the chapter on cardiac pathology requires to be rewritten. When this has been done, greater confidence will obtain in regard to the application of treatment.

16. **Vaccine Therapy.**—Crofton reports cases of chronic pyemia, tuberculous disease of the hip joint, eczema and sycosis, which lead him to the following conclusions:

1. It is legitimate to vaccinate patients with strictly localized infections without estimating their opsonic indices.
2. Materially increasing doses are necessary to confer any permanent immunity.
3. Vaccines given in such a way may prove of prophylactic use.

17. **Operating in the Air-Distended Urethra.**—Powell describes (with an illustration) an instrument for rendering possible operations in the air-distended urethra, and describes its use. He claims for it that by means of the pneumatic mount, most of the minor operations in the urethra can be undertaken, cysts and enlarged glands of Littre can be easily split and afterward cauterized. Small abscesses can be opened and sinuses slit up. Strictures of large caliber can be incised in the taut condition. Warts can be nipped off by the curette against the end of the cannula. Possibly the eccentric opening of a tight stricture can be incised and straightened to facilitate the passage of a filiform bougie. The electrolytic probe and the galvanocautery point can also be used, but extra nozzles, to which they are attached, are necessary.

18. **Chronic Inflammatory Conditions of the Oropharynx.**—MacBride discusses chronic inflammation of the tonsils, ulcerative conditions of the pharynx and tonsils, chronic pharyngitis—1, Typical granular pharyngitis; 2, pharyngitis characterized by granules and enlargement, congestion and irritability; 3, cases in which there may be some general congestion and in which the patient complains of frequent colds—and finally, pseudopharyngitis. In regard to the use of the guillotine, he cites the objection of Chevalier Jackson to the partial removal of the tonsil, and states that his own observations lead him to a different conclusion. In regard to hemorrhage, it is his practice after every tonsillotomy under local anesthesia to make the patient stand up, and he only allows him to sit down when it is obvious that the bleeding is stopping, or when he feels faint. Approaching syncope is one of the best hemostatics, and it is safer to induce faintness in the upright than in the recumbent position. MacBride considers it questionable whether keratosis should be included among inflammatory conditions. In regard to his second form of chronic pharyngitis, MacBride points out that such cases commonly occur in the kind of a man who "does himself well," is an excessive *bon vivant* and smokes and uses alcoholic beverages and highly seasoned foods to excess. Diet and regimen constitute the treatment here. The value of breathing exercises is also insisted on. In commenting on the third form, MacBride admits that the laryngologist is in a difficult position when called on for an opinion in cases in which the nose, pharynx and larynx present only a slight abnormality, but in which the complaint is of a great tendency to catch cold in the throat; it is difficult to say how far a slight septum deviation is concerned in the catching of cold. His inclination is to abstain from operation when no definite pathologic conditions explain the tendency to catching cold. He insists on the hardening process, as described by Moritz Schmidt—the gradual accustoming of infants to cold sponging; the disuse of too much clothing; the value of fresh air; and emphasizes the noxious effects of overheated rooms. Exercise, when ordered, should be definitely prescribed, like any other remedy. The author goes at length into details of regimen and physical culture. This last, as now taught, he criticizes on the ground that sufficient provision is not made in all the systems for increasing the rapidity of respiration and inducing warmth, the movements being often of such a nature as to exclude speed. This, however, can be remedied, by the use of some form of rapid exercise for a few minutes before finishing.

19. **Id.**—Ball discusses chronic nasopharyngitis in adults; "for," he says, "in children it is practically always symptomatic of adenoids, and the treatment is bound up with the treatment

of hypertrophy of the pharyngeal tonsil. Ball admits that it is not always easy to tell off-hand the actual source of the secretion in postnasal catarrh, a term often used in a loose sense to designate a symptom or group of symptoms depending on the presence of excessive or altered secretion in the nasopharynx, whatever its source. In some cases we may long remain in doubt as to how much comes from the nose and how much, if any, is due to nasopharyngeal disease. For these latter cases he endorses the term postnasal catarrh. Chronic nasopharyngitis may arise from many of the causes which produce chronic pharyngitis, but it is particularly apt to be induced or aggravated by secretions passing back from the nose, and which are retained owing to the mechanical difficulty of expelling them. In a certain number of cases, the seat of the trouble is the pharyngeal tonsil. He describes the simple catarrhal form, the atrophic form and the hypertrophic form, and calls attention to the fact that the association with ear troubles is a common cause of their coming under the notice of the physician. The proverbial obstinacy of chronic nasopharyngitis is largely due to the fact that the real nature of the case is not clearly made out, and the condition to which the nasopharyngitis is secondary is overlooked. It is useless to treat the chronic nasopharyngitis while a chronic rhinitis is neglected, the nose is obstructed, or a chronic sinus suppuration is overlooked. Probably the most important causative influences are the excessive use of alcohol and tobacco. The treatment after the removal of causative influences is the systematic removal of the secretion with washes. They are best used—with the necessary precautions—through the anterior nares. Ball prefers the small rubber ball syringe, of an ounce to an ounce and a half capacity. Postnasal sprays are difficult to use, and have no advantages. The solution should be warm, and isotonic with the blood, a condition which is fulfilled by adding 6 or 7 grains of sodium bicarbonate, 10 or 11 grains of borax, or 3 grains of sodium chlorid to the ounce. Some patients suffering from the dry forms derive comfort from the use of a paraffin menthol spray after the pharynx has been cleansed. The direct application of glycerin of iodin is also useful. Ball doubts the value of solutions of silver nitrate or zinc chlorid. Insufflation of astringent powders should be avoided, and the electric cautery should never be used in this region. He next discusses adenoids. Ball scouts the idea that breathing exercises effect their retrogression. In regard to the removal of the pharyngeal tonsil in every case in which chronic enlargement is detected, he decidedly negatives it, and holds that many, if not the great majority, of cases of slight enlargement are none the worse for being left alone. All are agreed that when certain definite symptoms or groups of symptoms are present in connection with adenoids, the adenoids should be removed. He then discusses the details of the operation and its effects on the child, and particularly points out that the results are by no means so universally satisfactory as it is commonly the case to represent them.

34. **Tuberculous Mesentery Glands.**—Corner records two cases of the removal of tuberculous mesenteric glands, and from these, in addition to former cases, draws the following deductions: As regards adults: 1, Tuberculous glands are most frequent in the ileocecal region; 2, they rarely form a palpable tumor; 3, they frequently are associated with appendicitis, less frequently with intestinal obstruction; 4, when caseous they give rise to pain and discomfort; they are one of the causes of abdominal pain which are only found on exploration. As regards young children: 1. Tuberculous glands are usually found in the mesentery of the small intestine. 2. Some cases are much improved by surgical treatment. 3. In these cases the glands form a movable palpable tumor, usually under the lower part of the left rectus muscle. 4. As next to bronchial tuberculous glands, tuberculous mesenteric glands are the most frequent focus of general tuberculous infection, operation should be undertaken. 5. Caseous glands should be incised, evacuated, gently curetted and closed with a stitch which throws the walls into folds. 6. These patients do very well so long as operation is not put off too long.

Medical Press and Circular, London.

September 23.

39 Organic Nerve Disease and Heart Affections. Prof. Schlesinger.
40 Tuberculous and Tuberculously-Disposed Children. T. N. Kelynack.
41 Clinical Pathology of Aural Discharges. W. Wingrave.
42 Cerebrospinal Meningitis. W. L. Thomson.
43 Bilateral Ovarian Cysts. W. B. Bell.

Clinical Journal, London.

September 23.

44 Atonic Dilatation of the Stomach. E. Young.
45 *Scopolamin-Morphin and Chloroform Anesthesia. H. MacNaughton-Jones.
46 *Carcinoma of Both Breasts. W. M. Willis.

45. This article was published in the *British Medical Journal*, Sept. 19, 1908, and was abstracted in THE JOURNAL, October 17, p. 1378.

46. **Carcinoma of Both Breasts.**—Willis reports a curious case in which a woman, aged 39, consulted him for trouble with the left breast, which was at first held to be chronic mastitis. There was at first no tumor, but induration of the whole gland, chiefly above the nipple. This was in December, 1904. When seen in April, 1905, she was advised to have the breast removed, but decided to wait until after her confinement, which occurred in July. Willis' diagnosis was shared by another surgeon, who also diagnosed chronic interstitial mastitis and advised removal. In February, 1906, she was seen by another surgeon, who formed the same opinion as to the condition, but did not advise operation. She was lost sight of until early in 1908, when Willis again saw her. The left breast showed little change from 1905; no definite tumor, but induration of the whole gland with enlarged axillary glands, but the right breast was also now affected in the same way as the left. This had been coming on, she said, for about twelve months. The skin was not adherent in either case, nor was either gland adherent to underlying fascia. Both nipples were retracted, and there were enlarged glands in both axillæ. Both breasts with axillary glands were removed, at a fortnight's interval. Each breast was microscopically examined, and in each case the primary growth and the axillary glands showed carcinoma. The author asks, Was the condition in the left breast really chronic interstitial mastitis, or was it carcinoma from the very beginning? The absence of a definite tumor, the diffuse character of the induration, the tenderness, the non-implication of the skin or underlying structures, all made it probable that it was chronic inflammation. As to the right breast, was it carcinoma from the beginning and was it a direct dissemination of this disease from the left breast? Willis' view is that the left breast was originally, and when he first saw it, the seat of chronic interstitial mastitis; that in this breast carcinoma developed; and that the right breast was carcinomatous from the commencement of disease in it, and that this was brought about by direct continuity from the left breast. This case more than ever confirms Willis in the opinion that chronic inflammatory affections of the breast which do not show signs of improvement, after a period of four to six weeks, should be removed; and that it is safest to remove swellings of the breast the nature of which is doubtful.

Bristol Medico-Chirurgical Journal.

September.

47 Early History of the Bristol Royal Infirmary. J. P. Bush.
48 Ten Cases of Operation for Perforated Gastric Ulcer. C. A. Morton.
49 Surgical Aid in Chronic Ulcer of the Stomach. J. A. Nixon.
50 *Aural Complications of Influenza and Their Treatment. H. F. Mole.
51 Renal Changes in Case of Hemorrhage into the Pons with Consequent High Blood Pressure. J. M. Clarke.
52 S[illegible] Neuralgia Successfully Treated by Excision [illegible] E. W. H. Groves.
53 [illegible] Liver. L. S. Smith.

50. **Ear Complications of Influenza.**—Mole says that among adults influenza is one of the commonest causes of suppurative otitis, and probably accounts for more cases in children, especially those suffering from adenoids, than is generally supposed. Influenza may set up acute otitis media, either nonsuppurative or suppurative, by way of the Eustachian tube.

The treatment in the non-suppurative form is by antiseptic sprays, nasopharyngeal irrigation, leeches, instillation of warm carbolized glycerin into the meatus, and hot dry applications to the ear. A brisk aperient should be given on subsidence of acute symptoms, the ear should be gently inflated with the Politzer bag or Eustachian catheter. The suppurative form in influenza is often characterized by the extreme acuteness of the process, by ecchymosis, hemorrhagic blebs on the drum and a tendency to involve the mastoid, intense pain of neuralgic character not always immediately relieved on perforation, and deafness. The treatment is the same as that of the other variety, except that free incision of the membrane from top to bottom behind the handle of the malleus should be practiced on the signs of suppuration. He considers thorough cleansing and drying of the ear and packing down to the perforation with moist antiseptic gauze the best after-treatment, if the surgeon can attend to it himself; if not, he orders irrigation, not syringing, of warm boric lotion. Finally, he says that there are cases of postinfluenzal deafness which on examination are found to be of nervous origin. They are probably due to a neuritis of the auditory nerve, though some are supposed to be caused by changes in the labyrinth. There is not infrequently severe tinnitus with them. In this case the treatment consists in the administration of strychnin either hypodermically or by the mouth. The treatment must be persisted in for some weeks, and the quantity increased gradually until a full dose is reached.

Journal Tropical Medicine and Hygiene, London.

September 15.

54 Ruptured Common Bile Duct—Double Laparatomy—Recovery. P. N. Gerrard.
55 *Santonin Treatment of Dysentery. A. D. Brunwin.

55. **Santonin for Dysentery.**—Brunwin refers to a method described by Dr. D. J. Drake of Typoor, Assam, for treating dysentery, by giving 5 grains of yellow santonin three times a day on alternate days, in 2 drams of olive oil. This is continued in every case until the feces become free from blood and mucus, and are normal in color, which usually happens within a few days. He generally follows this for two or three days with bismuth and salol. The rectum may be washed out, but he has found no advantage in this in acute cases. The treatment is preceded by 4 drams of sodium sulphate. Rest and a milk diet are enjoined. Brunwin has followed this treatment for four months in the Colonial Hospital, Suva, Fiji, and is so far satisfied with it that he uses it in preference to any other treatment. His statistics show a slightly shorter course and lower mortality. He believes the duration of acute symptoms to be still shorter than the statistics appear to indicate.

Annales de Gynécologie et d'Obstétrique, Paris.

September, XXXV, No. 5, pp. 513-575.

56 *Endoscopy of the Uterus. (Endoscopie utérine.) C. David.
57 *Fibromyoma of Round Ligament. E. Mériel and Baudet.

56. **Direct Visual Inspection of the Uterus.**—David gives an illustrated description of a uteroscope and of the views obtained with it in various uterine affections. The application is simple and harmless, he says, while it allows the diagnosis of affections which escape other methods of investigation. It is possible by this means to curette the uterus or to apply topical treatment under control of the eye, and it is useful in securing a fragment of tissue for microscopic examination. He uses three sizes, small for the uterus of normal size, and large for the puerperal uterus. It is necessary to dilate the uterus in the non-puerperal cases, and he prefers introduction of a large tent the day before. This dilatation is not an inconvenience or complication of the method, he remarks, but is the inevitable preliminary to any intervention or local treatment inside the organ, and the dilatation has a favorable influence on metrorrhagia. In some instances this dilatation alone, without other measures, was followed by cessation of the previously rebellious hemorrhage. No anesthetic is required; the introduction and the twisting around of the hysteroscope are not felt by the patient. In the colored plate of the findings he shows the aspect of the normal mucosa, the mucosa in endometritis and in cases of neoplasms, retention of the placenta, a patch of gangrene, traumatic perforation, etc.

57. **Fibromyoma of the Round Ligament.**—Mériel's patient was a woman of 52, robust and still menstruating. Abdominal pain, dull and recurring, had been observed at first and a movable, solid, non-sensitive tumor was palpated between the uterus and the bladder; there was no disturbance in micturition. The tumor weighed nearly three pounds and was shaped like a dumb-bell, with the right round ligament forming a small pedicle. Ascites was never observed in the twenty-one cases of these tumors on record. The increase in the pains compelled removal in the case reported, five years after the first symptoms became manifest.

Annales de l'Institut Pasteur, Paris.

Aug. 25, XXII, No. 8, pp. 625-688.

58 *Antagonistic Power of Normal Sera. (L'absorption de l'alexine et le pouvoir antagoniste des sérums normaux.) J. Bordet and F. Parker Gay.
59 Neutralization of Bacterial Toxins. Tiffeneau and A. Marie.
60 *Plague in Algeria and Tunis in 1907. (La peste dans le departement de Constantine.) A. Billet.
61 Micro-organism Causing Epidemic Among Cats. (Nouveau microbe pathogène pour les chats.) Z. Skrzynski.

58. **Antagonistic Power of Normal Sera.**—Bordet, continuing his research on the hemolytic test, has found that normal sera display an antagonistic action at times, which may interfere with the fixation of the alexin, and has probably led to erroneous conclusions in some cases in the past.

60. **Prophylaxis of Plague.**—Billet has studied 16 cases of bubonic plague which occurred in Algiers last fall. Sewer rats frequenting a certain grain warehouse were probably responsibile for the infection; the rats had become infected before the first clinical case. Some guinea-pigs placed in the houses where plague rats were found became infected and all were covered with the rat flea, *Pulex cheopis*, the tropical variety which transmits the plague. The sewer rat seemed to be the only variety responsible for the epidemic. The disease was apparently stamped out by prompt preventive measures, especially disinfection of the sewers, and this was accomplished most effectually by what he calls "chlorination." A one-third solution of chlorid of lime is poured into the openings of the sewer. Half an hour afterward a one-tenth solution of hydrochloric acid is poured down also. This causes generation of nascent chlorin which rapidly asphyxiates the rats in the sewer, even in its remotest recesses. This gas is so heavy that it sinks into all the nooks where the rats may be lurking; the sulphur method generates a lighter gas which is less liable to reach all the rats. For a poison he used squill, pulverized, 100 gm. (about 3 ounces) incorporated in 2.2 pounds of cooked meat, to which were added 30 drops of essence of fennel. Rats are fond of fennel and are attracted by it. The preparation is made into balls about the size of a nut.

Archiv für Kinderheilkunde, Stuttgart.

XLVIII, Nos. 5-6, pp. 321-482.. Last indexed, Sept. 5, p. 873.

62 *Epileptic and Feeble-minded Children. (Epilepsie und Schwachsinnszustände im Kindesalter.) H. Vogt.
63 *Causes of Infant Mortality. (Bewertung der die Säuglingssterblichkeit bedingenden Ursachen.) G. Tugendreich.
64 Home made Apparatus for Collecting an Infant's Urine and Stools for Research on the Metabolism. (Apparat zum Sammeln von Harn und Kot für Stoffwechseluntersuchung bei Kindern.) J. A. Schabad.

62. **Epileptic and Feeble-Minded Children.**—Vogt discusses in this monograph the connection between a tendency to convulsions in children and epilepsy; genuine and degenerative epilepsy; relations between cerebral paralysis and epilepsy; epilepsy with focal symptoms; relations of epilepsy to inherited syphilis and tuberous sclerosis; hydrocephalus and epilepsy; epileptiform conditions in idiots; the prognosis of epilepsy in children, and medical and social provision for such children. He mentions that 33 out of 116 mentally backward children at the Frankfurt special school suffered from convulsions in early childhood, that is, 28.5 per cent., while the proportion is still larger in certain other institutions of the kind. He remarks that the etiologic importance of syphilis *in the epilepsy of adults* is being recognized more and more; it is of the nature of a functional neurosis in these cases. The attacks occur at longer intervals, but the main difference

from genuine epilepsy is the absence of deterioration of the mental faculties. In children with inherited syphilis, organic epilepsy may occur in any of its various forms. From one-third to one-half of all epileptics show some indication of the disease before they are 10 years old. Further research is needed, he says, on the subject of metabolic epilepsy; toxemia plays an important part in bringing on the attacks. More exact neurologic indications for surgical treatment are also needed. He does not approve of excluding epileptic children from school on account of the other children alone; the teacher should be asked to be more lenient to a little inattention and restlessness. The mentally deficient belong of course in the schools for backward children. Vogt, who is director of the Neurologic Institute at Frankfort a. M., adds that there the epileptic children number about 0.2 per cent. of the total population.

63. **Causes of Infant Mortality.**—Tugendreich points out that the statistics in regard to infant mortality are based on such different premises that they are useless for purposes of comparison. He suggests that the one important and prevailing factor in infant mortality is the method of feeding. This should be the basis for comparative statistics, as it is the really important element in the effects of summer heat, lack of hygiene, poverty, climatic influences, etc., which are variously cited as the cause of the infant mortality. The mortality of breast-fed and of artificially fed infants should be listed separately. When this is done it is seen that climatic conditions, sultry heat, poverty, and all conditions which are supposed to explain the infant mortality have little influence on the breast-fed children—only the artificially fed children succumb to their action. He shows this anew by a group of infants at Berlin brought regularly to the "infant consultation" in his charge. The father's wages in these cases ranged from $4.50 to $6 a week, and he lists only those families with four children at least. His figures show that in 64 families with 377 breast-fed children the mortality was 19.8 per cent.; in 33 with 229 bottle-fed children the mortality was 43.2 per cent. In 24 families with 109 children, some raised on the bottle and others breast-fed, none of the latter died, while half of the bottle-fed children succumbed. In 13 other "mixed" families with 47 breast-fed and 23 bottle children, all the latter died. He exclaims that this material confirms anew that breast feeding is able to counteract the evil effects of poverty, unhygienic surroundings and summer heat, and rear healthy children. He remarks in conclusion that he does not know of any systematic research on the metabolism of nursing women. As a contribution to the subject he had 70 of the nursing women weighed during three months. The findings showed that the women gained in weight while nursing, even on the insufficient nourishment of the lower classes. Only very few lost in weight, much fewer than a control group of mothers of bottle-fed children.

Berliner klinische Wochenschrift.

September 21, XLV. No. 38, pp. 1709-1748.

65 *Action of Thyroid Substances. (Wirkung der Schilddrüsenstoffe.) F. Krauss and H. Friedenthal.
66 Treatment of Experimental Nagana with a Mixture of Atoxyl and Thioglycolic Acid. E. Friedberger.
67 *Behavior of Serum of Scarlet Fever Patients in Syphilis Serum Test. (Verhalten des Serums von Scharlachkranken bei der Wassermann'schen Reaktion auf Syphilis.) F. Hoehne. Id. E. Seligmann and F. Klopstock.
68 *Local Tuberculin Reaction in Diagnosis. A. Erlandsen.
69 Ergographic Study of Tremor. L. Panichi.
70 *Importance of Disturbances in Optic Nerve in Incipient Multiple Sclerosis. (Bedeutung der Sehnervenerkrankungen im Frühstadium der multiplen Sklerose.) Schley.
71 *Origin of Diabetes Mellitus. (Zur Lehre von der Enstehung des Diabetes mellitus.) L. Bleibtreu.
72 *Treatment of General Affections with Light and Moving Air Baths. (Behandlung von Allgemeinerkrankungen mit strömender Luft.) M. Herz.
73 Idiosyncrasies. E. Hess.
74 Faucet Vacuum Pump in Medicine. (Die Wasserstrahlluftpumpe im Dienste der Medizin.) A Strauss.

65. **Action of Thyroid Substances.**—This article describes research on the reciprocal action of thyroid substances and of adrenalin, throwing light on the origin of exophthalmic goiter. The work was done in Kraus' laboratory at Berlin, and confirms the physiologic antagonistic action of the internal secretions of certain glands. The most striking results were those obtained with simultaneous administration of thyroid juice and adrenalin—the effect on the pulse being an increase in the height of the excursions, skipping occasionally the diastolic pauses, but none of the delay or galloping observed with either alone; this is the so-called "action-pulse." Another important finding was that intravenous injection of the thyroid juice acted on the enucleated eyeball of the frog in the same way as adrenalin; also that the blood of patients with exophthalmic goiter caused mydriasis in the enucleated eyeball of the frog. This latter fact may be utilized, perhaps, the authors say, in determining the progress of recovery in exophthalmic goiter under treatment. The participation of the suprarenals in the clinical picture of exophthalmic goiter seems more probable now, and it may be possible that the indications for operative intervention may be more strictly drawn henceforth.

67. **Negative Serum Test for Syphilis Applied in Scarlet Fever.**—These communications from Ehrlich's institute at Frankfurt and from the Berlin hospitals report extensive experiences with 183 and 30 scarlet fever patients which demonstrate that the specific serum test for syphilis does not give a positive reaction in scarlet-fever patients or after recovery from the disease unless in the presence of syphilis. The second article relates that the antigen extract used for the test spoils readily, and that a spoiled extract is liable to induce a positive reaction. This fact is probably the explanation for the contradictory findings that have been reported by a few investigators.

68. See abstract No. 158 below.

70. **Importance of Affection of Optic Nerve for Early Differentiation of Multiple Sclerosis.**—Schley reports a case which confirms the statements in regard to the differential value of visual disturbances in the onset of this affection. They may occur as a papillitis, retrobulbar neuritis or as an atrophic trouble without preceding neuritis, and these disturbances may be noted for years, on one or both sides, before other symptoms of the multiple sclerosis develop. They may fluctuate or subside partially or entirely. When this is observed in a comparatively youthful person and other causes can be excluded, it is very probable that multiple sclerosis is in question. Far too often the visual disturbances have been ascribed to hysteria and treatment instituted on this erroneous basis.

71. **Origin of Diabetes Mellitus.**—Bleibtreu refers to the autopsy findings in two cases of diabetes which sustain the assumption that the true source of the diabetes is in the nerves innervating the pancreas and duodenum rather than in the pancreas tissue itself. This would explain the cases in which the pancreas is found apparently normal, as also those in which no diabetes occurs, although the pancreas is extremely pathologic. If the nerves are intact no diabetes results. The condition of the nerves, especially the nerve centers in the duodenum and the fibers passing to the pancreas, is the main factor.

72. **Treatment of Constitutional Affections with Moving Air and Light Baths.**—Herz ascribes to the motion of the air a large part of the beneficial effect of out-of-door life, and seeks to obtain this same action by general light baths combined with movement of the air. He has noticed that diabetics feel better in places where there is much sunshine and free movement of the air, and this should prove a guide in treatment. The same applies to gout, supplemented by superheated air locally, to improve the circulation in the parts.

Deutsche medizinische Wochenschrift, Berlin.

September 17, XXXIV, No. 38, pp. 1617-1656.

75 *Treatment of Hysteria. E. Meyer.
76 *Treatment of Tuberculosis with Tuberculosis Immune Blood. (Tuberkulose-Immunblut, Tuberkulose-Immunität und Tuberkulose-Immunblut- (J.-K.) Behandlung.) C. Spengler (Davos).
77 *Connection between Affections of Nose, Accessory Cavities and Throat and Ocular Affections. (Beziehungen der Erkrankungen der Nase, ihrer Nebenhöhlen und des Nasenrachenraumes zu denen des Auges.) H. Kuhnt. Commenced in No. 37.
78 Necrosis of Myomata during Pregnancy. (Nekrose der Myome in der Gravidität.) K. Reinecke.
79 Conception and Menstruation. J. W. Samson.
80 Toxic Nervous Affections Following House Epidemic of Diphtheria. W. Feilchenfeld.
81 Curative Influence of Radium Emanations. F. Davidsohn.

75. **Treatment of Hysteria.**—Meyer is convinced that hysteria, being of psychogenic origin, requires psychic treatment as the base, but that it should be supplemented by all other measures known to medicine, especially the psycho-dietetic. General debility may be the cause of the outbreak of hysteria, and the physician should aim to nourish and strengthen the entire organism by every possible means. He warns against applying Freud's theory of sexual trauma, except by an expert, as liable to do more harm than good. Traumatic hysteria is best prevented by opportunity for work, at the same wages, but with lesser physical demands. It is important to find out what measures were applied by others before instituting treatment of hysteria, so as to avoid these special ones in case they have failed.

76. **Treatment of Tuberculosis with "Immune Blood."**—Spengler thinks that he has demonstrated that the antibodies are produced mainly in the red corpuscles, not in the serum as previously assumed. He declares that this conception explains why any depressing cause, reducing the vitality, by impairing the normal blood production, induces a predisposition to tuberculosis. He bases a system of treatment on these premises, using what he calls tuberculosis-immune-blood for the purpose.

77. **Relations Between Affections of the Nose and Throat and Ocular Affections.**—Kuhnt's article was read at the First International Congress of Laryngo-Rhinology at Vienna last spring; it summarizes his extensive experience as professor of ophthalmology at Königsberg. He reviews the various relations; mechanical, reflex, by contiguity, and by disturbance in the circulation. Affections of the lachrymal duct were of rhinogenic origin in 93.7 per cent. of his cases, and consequently, he demands treatment of the nose and sinuses as indicated before making a prognosis. A nasal affection was also discovered in 65.5 per cent. of 443 cases of trachoma in his experience, and he calls attention anew to the subsidence of exophthalmos after removal of adenoid growths. He thinks it possible that, besides the thyroid, other organs, such as the tonsils, may alter their physiologic functioning and produce morbid products or cease to neutralize toxins, which would explain the connection between adenoids and exophthalmos. He has always discovered some old empyema of the antrum in every case of thrombosis of the central vein, and in one case of thrombosis of the artery. In rare cases detachment of the retina may be induced by transportation of some injurious agent into the anterior portion, causing exudation in the vitreous body with later shriveling. He found that the orbital process was dependent on a sinusitis in 0.29 per cent. of his cases, and others have reported much higher proportions. It is seldom that the physician is able to detect an old healed sinusitis leaving the persisting orbital complication. Kuhnt emphasizes the importance of examination of the central color perception as an aid for differentiating sinusitis. One of the first ocular signs of the condition is the change in the perception of red and green. The pericentral scotoma may form a closed or a broken ring, and blend gradually into the intact peripheral field. In case of empyema, functional disturbances may be observed. Muscular asthenopia is the most frequent, but there may be disturbance in accommodation and reduction in the visual field. Kuhnt, in 20 per cent. of his cases of empyema, noted that the visual field was restricted for colors or for white alone. He attributes these disturbances to absorption of products of suppuration, whether the products are absorbed through the mucosæ of the nose, throat or sinus or are swallowed. It is his impression that there is a reaction at present from overactive surgical measures, but he warns that this reaction must not be allowed to go too far.

Deutsche Zeitschrift für Chirurgie, Leipsic.

August, XCIV, Nos. 1-2, pp. 1-200.

82 *Treatment of Severe Bullet Wounds of the Lung by Primary Suture. (Behandlung schwerer Schussverletzungen der Lunge mit primärer Naht.) H. Küttner.
83 *Cysts near Bladder and Prostate. (Retrovesikale und retroprostatische Cysten.) W. Liebl.
84 *Gallstone Ileus. (Gallenstein-Ileus.) R. Lesk.
85 Complete Exclusion of Large Intestine for Rebellious Intestinal Hemorrhages in Syphilis. (Komplette Ausschaltung des Dickdarms wegen hartnäckiger Darmblutungen bei Syphilis.) Canon.
86 Two Cases of Traumatic Motor Aphasia. M. Kirschner.
87 Postoperative Ileus from Re-enforcing Suture. (Ileus durch Entspannungsnähte.) B. Fischer.
88 *Operative Treatment of Gunshot Wounds of Spinal Cord. (Operative Behandlung der Rückenmarksschüsse.) W. Braun and M. Lewandowsky.
89 Operative Reduction of Congenital Dislocation of the Knee. (Zur Frage der blutigen Reposition bei Luxatio genu congenita.) H. v. Salis.
90 *Belt to Expel Blood from Lower Part of the Body. (Zur künstlichen Blutleere der unteren Körperhälfte nach Momburg.) H. Rimann.
91 Technic for Removal of High Rectal Cancer in Men. (Zur kombinierten Exstirpation der hochsitzenden respektive hoch hinaufreichenden Mastdarmcarcinome bei Männern.) R. Torikata.
92 Three Cases of Perforating Gunshot Wounds of Gastrointestinal Tract with Recovery. (Kasuistischer Beitrag zu den Schussverletzungen des Magendarmtraktus und den Perforationen chronischer Magengeschwüre.) P. Schroeter.

82. **Primary Suture of Bullet Wound of the Lung.**—Küttner had three patients with bullet wound in the lung at about the same time. One was treated by primary suture and left the clinic in comparatively good health on the twenty-fifth day, the ultimate results being satisfactory in every way, while one of the other patients, who was treated conservatively, required hospital care until the seventy-eighth day and was left with considerable retraction of the chest wall, scoliosis and displacement of the heart, with restriction of the area of resonance over the lung. Küttner reviews five cases of primary suture of the lung on record, the experiences to date confirming the advantages of primary closure of the pleura. He intends in future to evacuate the extravasated blood in such cases if it is not promptly absorbed, refraining from draining thereafter and suturing the pleura at once. The introduction of the technic which allows the pressure in the lung to be maintained undisturbed when the chest is opened, has rendered such operations comparatively harmless. He operated in the Sauerbruch cabinet in his case. The conditions were much more serious in this than in the two other patients treated conservatively at the same time, but the outcome was incomparably better.

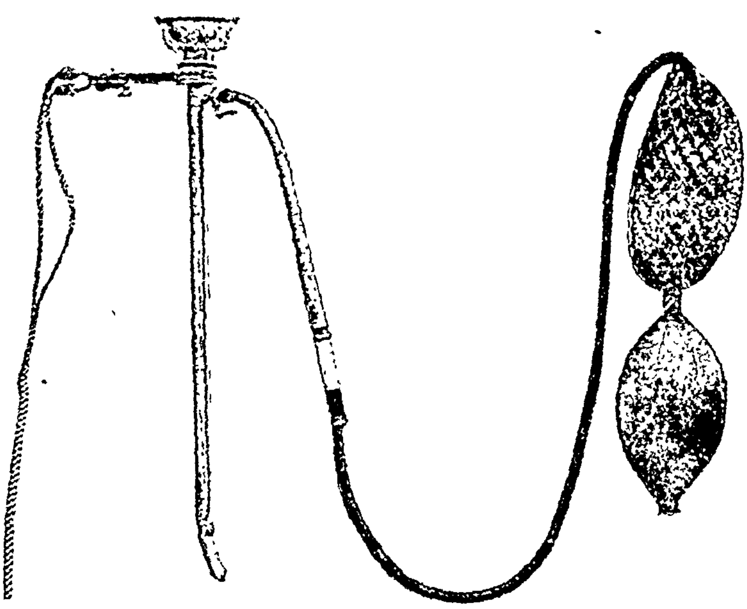
83. **Cysts in or Near the Prostate or Behind the Bladder.**—Liebl states that in 8 of the 26 cases of these cysts on record the patients succumbed, while only 8 permanent recoveries are reported in the 12 cases listed as cured. He summarizes the details of the various cases and adds one from his own experience. His patient was a man of 46 with disturbances in micturition for three months before they became so severe that operative intervention was required. A cystic lymphangioma was discovered and removed from the prostate region, but its recurrences made four operations necessary in the course of two years. There are indications at present two years later of a probable slight recurrence, but as it causes no disturbance the patient refuses further operative intervention.

84. **Gallstone Ileus.**—Lesk reports 5 cases from Schnitzler's service at Vienna in which the patients were cured by operation, with one exception. He also summarizes 8 other cases terminating fatally at once or in recovery without operation. Twenty-two pages are devoted to tabulated details of 148 cases which he has collected from the literature. The patients were mostly women; the clinical picture was remarkable on account of the mildness of the symptoms, and the almost entirely symptomless development of the communication between the gall bladder and duodenum, which was the usual mode of passage of the gallstone into the intestine. This communication was discovered in 22 cases that came to autopsy. The initial symptoms were always mild, but vomiting occurred early, and a loop of the intestine could be seen to be dilated but not stiff, while the temperature remained normal and there was only moderate leucocytosis. Periods of total obstruction alternated with periods in which the bowel was open. As the obstruction is caused by a migrating foreign body, new segments of the intestine are constantly being involved, with resulting overexertion and exhaustion at successive points.

88. **Operative Treatment of Bullet Wound of Spinal Cord.**—Braun gives a detailed description of a case of gunshot wound of the spinal cord treated by prompt operative intervention

One drop of this is instilled in the eye and, three or four days later, two drops are instilled in the other eye if no reaction is apparent. Under no circumstances must the instillation be repeated in the same eye. Applied in this mild form he has found this ocular test as reliable as subcutaneous injection, and he advocates this technic to control the cutaneous test. For this he uses the same weak solution, making a control scratch above and then scarifying through one drop of the solution of tuberculin; after one minute the part is covered with absorbent cotton held in place with plaster. The reaction may occur in from eight to twelve hours, and is compared with the control scarification after twenty-four. With this technic, he says, the test is entirely harmless and nearly as conclusive as the subcutaneous test. The cutaneous reaction includes redness and a palpable circumscribed infiltration around the scarifications. With these tests thus modified to the limit of minimal dosage he obtained a positive reaction in 100 per cent. of the certain tuberculous patients and in 48 or 64 per cent. of the suspicious cases, and only in 15 and 20 per cent. of the clinically non-tuberculous. The main point is to have a standard tuberculin solution for the tests, and to use the minimal amount that will induce a reaction.

159. **Direct Visual Inspection of the Inflated Stomach.**—Rovsing's gastroscope is introduced into the exposed stomach through a minute incision. It is similar to the Nitze gastroscope, but has an arrangement for distending the stomach with air. The incision to introduce it is made so small that the wall of the stomach closes around the instrument air-tight, or must be sutured around it. The transillumination of the inflated stomach brings out all the anatomic details. A patch of gastritis shows as a dark red to bluish patch, while tumors cast a dark diffuse shadow; deep chronic ulcers show with a china-white center, free from vessels. Small erosions cast the shadow of the blood clot over them, and trickling blood shows as a narrow stripe of shadow. The gastroscope can be pushed down into the duodenum to inflate and inspect it in the same way. The findings are even more instructive, as the walls are thinner. After this diaphanoscopy, direct visual inspection of the lesions gives remarkably instructive findings. In two cases of the twenty-five in which he has applied this technic an ulcer or cancer seemed inevitably present, but diaphanoscopy showed that the whole trouble was merely severe ptosis. In nine cases an unexpected ulcer was revealed; in three others an ulcer was discovered in the duodenum as the cause of the vague disturbances. In another case the technic revealed a small bleeding erosion which might have entailed fatal hemorrhage if it had not been treated in time. He gives a tabulated oversight of all the cases, with colored plates showing the aspect of the inflated, transilluminated stomach. He disinfects the entire apparatus for thirty-six hours in the formalin sterilizer beforehand. None of his patients developed peritonitis.



Nordiskt medicinskt Arkiv, Stockholm.

XLI, Internal medicine, No. 1. Last indexed July 18, p. 268.

161 Recapitulatory Address on Receiving the Nobel Prize. A. Laveran (Paris). Id. E. Buchner (Berlin).
162 *Tardy Recovery from Psychoses. (Spätheilung von Psychosen.) A. Petren.
163 Explanation of one Difference between Cancer Cells and other Cells. (Erklärung einer Verschiedenheit der Krebszellen von anderen Zellen.) K. A. Heiberg.

162. **Late Recovery from Mental Affections.**—Petren's long monograph is not completed in this issue of the *Arkiv*, but this section gives an oversight of the records in English and in Italian literature in regard to late recoveries from psychoses of various kinds. He sifts the different cases, discussing each in turn, and especially the form of the mental affection, its duration and the modification in the symptoms as the long-continued insanity in some of the cases took a sudden turn for the better. In the 18 cases from the Italian literature, recovery is said to have been complete, although the mental affection had lasted from four to eleven years. A violent fright is said to have caused the cure of the maniacal psychosis with depression in one case and a dysenteric colitis was responsible for the recovery in another. One of Ventra's patients recovered after twenty years of what he calls "menstrual insanity," the recovery coinciding with the menopause. The symptoms in this case persisted in a very mild form during the intervals, but violent exacerbations occurred at each menstrual period.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

The Campaign Aga[illegible] in the United States. Including a Directory [illegible] ling with Tuberculosis in the United States and [illegible] y Philip P. Jacobs, under the direction of the National Association for the Study and Prevention of Tuberculosis, by aid of the Russell Sage Foundation for the Improvement of Social Conditions. Cloth. Pp. 467. Price, $1.00. New York: Charities Publication Committee, 1908.

Economic Zoology. By Herbert Osborn, M.Sc., Professor of Zoology and Entomology in Ohio State University. Cloth. Pp. 490, with illustrations. Price, $2.00. New York: Macmillan Co., 1908.

High Frequency Currents. By Frederick Finch Strong, M.D., Instructor in Electro-Therapeutics at Tuft's College Medical School, Boston. Cloth. Pp. 289, with illustrations. Price, $3.00. New York: Rebman Co.

Text-Book of Nervous Diseases and Psychiatry. By Charles L. Dana, A.M., M.D., LL.D. Professor of Nervous Diseases in Cornell University Medical College. Seventh edition. Cloth. Pp. 782, with illustrations. Price, $5.00. New York: William Wood & Co., 1908.

Venoms, Venomous Animals and Antivenomous Serum-Therapeutics. By A. Calmette, M.D., Director of the Pasteur Institute, Lille. Translated by Earnest E. Austen, F.Z.S. Cloth. Pp. 403, with illustrations. Price, $5.00. New York: William Wood & Co., 1908.

Genito-Urinary Diseases and Syphilis. By Edgar G. Ballinger, M.D., Lecturer on Genito-Urinary Diseases, Syphilis and Urinalysis, Atlanta School of Medicine. Cloth. Pp. 276, with illustrations. Price, $3.00. Atlanta: E. W. Allen & Co., 1908.

Aids to Ophthalmology. By N. Bishop Harman, M.A., M.B. Cantab., F.R.C.S. Eng., Ophthalmic Surgeon to the Belgrave Hospital for Children. Cloth. Pp. 165, with illustrations. Fourth edition. Price, $1.00. New York: William Wood & Co., 1908.

Text-Book of Operative Surgery. By Warren Stone Bickham, M.D., Phar. M., Junior Surgeon, Touro Hospital, New Orleans. Cloth. Pp. 1206, with illustrations. Third edition. Price, $6.50. Philadelphia: W. B. Saunders Co., 1908.

Aids to Tropical Medicine. By Gilbert E. Brooke, M.A., Cantab., L.R.C.P. Edin., D.P.H., F.R.G.S., Port Health Officer, Singapore. Cloth. Pp. 163, with illustrations. Price, $1.00. New York: William Wood & Co., 1908.

Operative Midwifery. By J. M. Munro Kerr, M.B., C.M., Glas., Fellow of the Faculty of Physicians and Surgeons, Glasgow. Cloth. Pp. 705, with illustrations. Price, $6.00. New York: William Wood & Co., 1908.

Report from the Pathological Department, Central Indiana Hospital for Insane, 1903-1906. Cloth. Pp. 392. Indianapolis: William B. Burford, Contractor for State Printing and Binding, 1908.

Thomas Linacre. By William Osler, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford. Cloth. Pp. 64. Price, $0.75. Cambridge: University Press, 1908.

Hand Book of Help for Persons Suffering from Pulmonary Tuberculosis. Department of Health, City of New York. Pp. 64. New York: J. W. Pratt Co., 1908.

Surgery of the Ureter: Historical Review. By Benjamin Merrill Ricketts, Ph.B., M.D., LL.D., Member Am. Med. Assn. Cloth. Pp. 244. Cincinnati.

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Original Articles

THE SUFFICIENCY OF THE OFFICIAL DRUGS AND PREPARATIONS IN THE MEDICINAL TREATMENT OF DISEASE.*

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NEW HAVEN, CONN.

This is the subject that was given me by the program committee, for elucidation, elaboration or extension, hence it is not of my choosing, but the subject interests me and I hope I may interest you.

We are in the midst of an energetic endeavor to stimulate the medical schools to teach better therapeutics, to teach the students to write better prescriptions, and to give them a better understanding of the orthodox drugs and the possibilities derived from their use. It is also the object of this section, and all therapeutic societies, to present to practitioners the necessity for a better understanding of the United States Pharmacopeia and the National Formulary so that the ordering of preparations whose exact constituency is not known may become a disgrace of the past and not a perpetuity of the carelessness or ignorance of the present.

That it is utterly unimportant to the patient what name the physician gives to his disease or condition is self-evident. He comes to be cured, or at least to have his troublesome symptoms ameliorated, and while a diagnosis is positively essential for perfect therapy, fortunately or unfortunately, it is not always necessary for an amelioration of his symptoms or even, sometimes, for his cure. Consequently, many times he is as successfully treated, from his standpoint, by a quack or an ignorant practitioner as he is by a scientific physician. It is also unfortunately true that many a scientific physician, owing to his medical training and to some of the best text-books on the practice of medicine, delays the amelioration of the patient's symptoms until slow laboratorial processes have made a definite, positive diagnosis. Such diagnosis having been made, he is content to treat the etiologic cause of the condition, forgetting even the pain the patient is suffering, and thus his patient is often driven to quackery or dogmas or "patent medicines," and often improves from such treatment.

It should be taught, not only in the therapeutic departments, but in the internal medicine departments of every medical school, and no text-book on practice should be considered complete unless it teaches that the uncomfortable, disagreeable and non-eliminative symptoms of a disease must be attended to and therapeutically managed while the disease itself is being scientifically combated. It would be as unjust to accuse me of advocating the symptomatic treatment of disease, as it would be untrue, but each and every clinician well knows that it is the consultant only who can ignore the treatment of troublesome symptoms. All successful quackeries succeed because of their ability to relieve symptoms or to cause such mental suggestion as will relieve overtaxed minds, and many a loyal patient is driven to employ quackery by scientific neglect.

While I am supposed to speak on the subject of drugs, I must declare that the administration of drugs is only a small part of the management of disease, and the management of disease is the highest pinnacle of the medical curriculum. It presupposes all the physiologic, chemical, anatomic, pathologic, bacteriologic and pharmacologic knowledge that can be obtained. This knowledge is then brought to bear on the management of the disease, which means necessary hygienic changes, perhaps a change of climate, an arrangement of the food and drink, physical treatment if indicated, such mental treatment as is advisable, such medicinal treatment as is needed, and necessary operative procedures, and, altogether, this is therapeutics. The subject of therapeutics is, then, the broadest and the hardest one for the medical student to grasp, and it is safe to say that the young graduate in medicine, even after a hospital course, is less prepared in the bedside and office management of disease than in any other branch of his art.

We all approve of the growth of the healthy teaching of the ability of the mind to overcome many nervous disorders and prevent the misinterpretation of slight physical disturbances, which teaching was begun at the Immanuel Church, in Boston. It is too soon to assert that the men who are teaching this therapeutic branch of medicine will not go too far and be so impressed by their success in apparently pathologic conditions as to become mentally unbalanced, and believe that wonders can be done by the "mind cure." Psychotherapeutic instruction should be given in every medical school, and I believe that a great deal of good can be done by mental instruction of the laity by educated and able ministers of the gospel; still I think they would be better prepared to do such teaching and would teach it well-balanced if they had some instruction in pathology. In other words, it ought to be considered a prerequisite that before a minister should teach the power of the mind over the body he should have taken a course in pathology. He will then recognize his limitations and can teach good mental sense to his audiences.

As the scientific practitioners are just passing out of the age of drug annihilation and a belief that because a disease can not be cured by specifics the patient should receive no treatment, we find the necessity for a better understanding of pharmacology. Just as a mental therapist will be cured of absurd prognoses and beliefs by the study of pathology, so does a thorough knowledge of the pharmacologic action of drugs prevent a doubt of their efficiency. Hence it is absolutely necessary for every medical school to inaugurate laboratory pharmacologic instruction. The medical graduate after such a course will demand pure, active drugs, and will use them rationally, and the pharmaceutical firms must vie with each other to furnish pure, active preparations of these drugs. If these firms can improve on the National Formulary preparations let such be incorporated into the National Formulary, which should be reissued at least every five years. This is not to advise the use of ready-prepared combinations in preference to a well worked out prescription to meet the individual case, but is advised to prevent the necessity of ordering pharmaceutical preparations whose exact ingredients we do not know.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

I believe that it is time to repudiate the assertion that Nature is a good physician or a good surgeon. Not that I wish to controvert the belief of ancient, medieval and modern medicine, as evidenced by the various Greek, Arabian, Latin, German and English terms, that the human organism is able to combat poisons and infections and to heal lesions. But we have now come to the time when it should be recognized that we not only must not obstruct in the human body the processes of eradication of an infection which natural metabolism has established, but that it is just as futile and just as absurd not to aid in combating an acute or chronic disease with the proper drugs, all physical and hygienic methods having been instituted, as it is to allow pus to burrow and cause serious consequences instead of properly evacuating it. In other words, natural processes are fighting just as much to establish the condition or disease or infection that is abnormal to the part where it is, as are the natural processes of the human body endeavoring to eradicate these foreigners who have invaded their stronghold. Who for one moment can think that the cancer cell is not attending to its natural function of multiplying and eating into healthy tissue, and who would allow to-day such a process to go untreated? Who would allow the diphtheria germ and its toxins to have full sway without the use of its opponent, antitoxin? It is just as absurd to declare that pneumonia and typhoid fever need no medication as it would be to declare that diphtheria needs no antitoxin and no antiseptic gargles.

With this preamble let us return to the pharmacologic activities and the therapeutic uses of drugs, and turn to the Pharmacopeia as offering active drugs of standard strengths in efficient and suitable preparations. And the first question that we must ask is, why so much that is useless surrounds the few that are so useful? Is there any practice of medicine up-to-date, is there any book on gynecology up-to-date, is there any book on surgery up-to-date that describes every old, antedated, ancient and useless method of treatment, together with the modern proper treatment? You must answer "No." Consequently why in an associated branch of medicine, and the most necessary branch of all, do we have a book called "standard" that is loaded with antedated and almost antediluvian mixtures? Let those to whom we give authority to prepare the United States Pharmacopeia offer one that is small, compact, has only the best preparations of the best drugs, and does not keep a drug out of the Pharmacopeia rather than recognize its ability to do good for the sake of some old-fashioned fear that it may have a patented name. Then let the state boards of health frequently analyze the drugs found in the open market to see that they come up to the standard of strength. Then, and then only, can we take official drugs and have exact therapeutic possibilities from them.

While advising simplicity in prescription writing, it can not be gainsaid that the art of combining drugs or of rendering a drug less disagreeable should be taught in the medical schools. Even with this laudable object in view, however, it is not justifiable for a physician so to belittle his profession and forget rationality in his treatment of a patient, to say nothing of the enormous graft which he hands the proprietary firms from the pockets of his patients, by ordering proprietary mixtures. I do not believe that the physician who orders such preparations realizes the positive harm he often does his patients, in some instances almost amounting to criminal negligence. I take it for granted that no one in this audience deems it reputable, or scientific, or just to patients to prescribe preparations the ingredients of which are not known. This is little less than malpractice. The patient pays for our opinion. If we prescribe a nostrum, it is fraud, as he could prescribe his own nostrum without paying our fee. He seeks known advice and knowledge, and we have cheated him by giving him unknown mixtures or ignorance. Hence it is fraud, and I am not sure but that a court would award him damages should he make complaint. With the aid of an honest druggist, by means of our Pharmacopeia and National Formulary, we hardly need a single proprietary mixture in the medicinal treatment of disease.

Few physicians know the range and compass of these books. They contain sixty cerates, ointments, salves, mulls, petroleums, and collodions. Can any one doubt that with this number of greases a good sedative or stimulant ointment could not be selected, or any combination made that was desired? They also offer seventy-seven oils, waters, and liniments for external use; certainly all the rubs that there is room for on the human body. There are at least twenty-two simple and antiseptic dusting powders; certainly enough. So much for external remedies.

The Pharmacopeia contains 2 vinegars, 17 waters, 3 elixirs, 6 emulsions, 28 extracts, 85 fluid extracts, 2 glycerites for internal use, about 20 liquors or solutions for internal use, 4 mixtures, 6 oleoresins, 45 oils, 14 pills, 9 powders, 4 resins, 20 spirits, 29 syrups, 64 tinctures, 9 troches, and 10 wines. While the National Formulary contains 1 vinegar, 64 elixirs, 9 emulsions, 2 extracts, 36 fluid extracts, 4 glycerites, more than 38 solutions, 18 mixtures, 21 pills, 19 powders, 3 spirits, 37 syrups, 27 tinctures, and 10 wines. Enough, ye gods, to leave the proprietary manufacturers to seek other means of support, and to make worse any poor patient that comes in close relationship to them. Do not for one moment think that I advocate using this heterogeneous mass of preparations, but I do say that every physician can, with the aid of his druggist, select the few formulas that he will use that will be as elegant and pleasant methods of giving drugs as proprietary preparations, and more, will represent guaranteed doses of the ingredients.

While advising the use of some of the preparations above named, I do not wish to be understood as claiming that it is not better to combine one's own prescription better to fit the individual case, but these official preparations preclude the necessity for using proprietaries.

Now, what are the bugaboos that make the physician reach for the proprietary preparations? First tonics: The first drug to consider is iron, and the proprietary preparations of organic iron are legion. There is not a single good, substantiated reason why we should order a single one of them, and certainly the profit ordered by physicians to be paid by trusting patients to foreign manufacturers is unjustifiable. No iron will act any better than an inorganic iron. If there is an idiosyncrasy against it, smaller doses should be used, and, by the way, ordinarily too large doses of iron are given. The reduced iron, the mass of carbonated iron, the pill of the carbonate of iron, the saccharated oxid of iron (*Eisenzucker*) in tablets for children, the tincture of the chlorid of iron, the syrup of the iodid of iron, with ten elixirs in the U. S. P. and N. F. containing iron, and any number of other iron salts can do all in the iron line that it is possible to do. I defy any "patented" iron to do therapeutically what I can not do with one of the five first mentioned iron preparations.

Now as to beef: Is there any beef preparation made, in recommended daily dose, that can equal a little piece of steak, a little scraped beef pâté, a little chopped raw beef, or expressed beef serum? No.

As to other albuminoids and protein foods, a little milk, a little white of egg, a little oatmeal gruel, and many other simple nutriments preclude the necessity for their use, except in rare instances.

We do not need a "patented" bitter tonic. We have the compound tincture of gentian, the compound tincture of cinchona, and the tincture of nux vomica, in one to five drop doses, and we need for bitter tonic purposes no other.

As to stimulants: It is not necessary to pay for a poor "patented" sherry. We had much better order whiskey, brandy, sherry, ale, or champagne, as needed, and the patient will save money and receive better stimulation.

As to digestants: Very rarely is pepsin needed, and pancreatin is of but little value in the stomach. If they are needed, the Pharmacopeia and National Formulary offer several preparations for a choice. Even predigesting powders are furnished by these official books. In other words, the long list of properitary digestants is not needed.

We do not need the fat and oil emulsion proprietary preparations. The oil emulsions of the U. S. P. and N. F. are sufficient, if we desire them. Straight doses of cod-liver oil are better, and cream, butter and olive oil surpass any fat emulsion. We need no proprietary suspensions of oils, as the U. S. P. and N. F. offer all that are needed from turpentine to castor oil.

Tasteless quinins are mostly useless, and the various methods at our disposal of giving quinin allow us to surmount all difficulties of age and taste and we need no proprietary help other than the free-to-all elegance of the elastic capsule.

We do not need the legion of "patented" preparations of glycerophosphates and lecithin, as the National Formulary furnishes an elixir of glycerophosphates with lime and soda.

Concerning the long list of antipyretic preparations, cough mixtures, hypnotics, and nerve sedatives, there is but one thing to say, viz., that any physician who thinks he is unable to write the prescription needed for the individual who requires such medication should set to work to instruct himself in the method of writing for such drugs and arranging such pharmacally and pharmacologically correct combinations as will suit the needs of his patients. A long list of antipyretic coal-tar drugs is not needed. The official antipyrin, acetanilid, and acetphenetidinum (phenacetin) are all that need to be used. Caffein, camphor, soda, salol, and any other drug can be combined with them, if desired. As to cough mixtures: what codein, ipecac, ammonium chlorid, potassium iodid, terpin hydrate, and syrup of hypophosphite can not do, can not be done at all with drugs. Any or all of these should be given with absolute omission of the ancient, nasty, sweet and nauseating syrups. There are no combinations of hypnotics that can not be better combined by ourselves, and for much less cost to our patients.

None of this should prevent a physician from trying a new drug if he thinks it is an honest one, because we should be ever ready to make use of a valuable discovery, but never to further a fraud. Such a new drug should be ordered straight or used only in our own combination, and never in a ready-made mixture offered by the firm interested.

Nerve sedatives for hysteria and allied conditions are either useless and act by suggestion, or they carry the danger of forming a drug habit. We should write for our own patients our own prescriptions. There are various phosphorus preparations official and National Formulary, and if one thinks sumbul valuable, let him try it alone and see.

Now the various uric acid and gout curing preparations, and here fraud and credulity are rampant. The régime and extra water abolishes symptoms, if anything is done at all, and of all waters distilled water is the best. I do not intend to say that a sojourn at a water health resort is not of first-class advantage, because it is. A change of climate, a change of water, a change of food (cooked differently, hence often chemically different), a change of life and freedom from worry, and a change of exercise are the factors that do good, and not urate solvents. This is not to declare that minute doses of some chemical ingredient in certain waters, taken for a long time, may not modify metabolism; this must be acknowledged, but it does not alter the absolute falsity of the lithic acid and urate solvent promises, all of which promises are decidedly "gouty."

Next we come to the effervescing preparations, and here we should lean on the druggist. A large number of effervescing preparations are official, but any pet combination of any physician can be prepared by his druggist to effervesce at a cost much less than the same in proprietary bottles that are blazed to show the laity that they are proprietary, and unless the druggist is particularly careful, carry a lot of quack literature into the family, which is read with avidity, "as the doctor ordered it," all for a price which furnishes a splendid profit to the concerns making these preparations, but hardly enough profit to the druggist for shelving the same.

As to disinfectants: Again the Pharmacopeia and National Formulary come to meet our needs with mercuric chlorid, phenol, peroxid of hydrogen, formaldehyd solution, potassium permanganate, chlorinated lime, and various solutions; and the druggist is ever ready to make in large quantity, or strong for dilution, any disinfectant that we may select. Also, he can readily make any alkaline mouth wash that we may elect, if the two that are official are not satisfactory.

Now, why can we not acquire the art of writing our own prescriptions? It is only a question of a book or two, a little study, careful selection of official preparations, a few heart to heart talks with a trusted druggist, and the thing is an accomplished fact.

ABSTRACT OF DISCUSSION.

Dr. J. N. McCormack, Bowling Green, Ky.: The chief difficulty about all this matter is that scientific prescription writing has not been taught in our medical schools. It was *not done in my day; it seems no better done now. Even* with the leaders of the profession composing the faculties, the course of instruction has not been practical in most medical schools, and as a class they have constituted the least progressive element in the profession. I consider it more important to teach a student practical pharmacology and prescription-writing: the evils of commissions, divisions of fees, contract and lodge practice; how he may legitimately obtain practice, conduct his business and earn a living: the importance *of membership and attendance in medical societies*, and about other practical problems which will soon inevitably confront him, than to give extended courses in embryology and similar interesting but more theoretical branches. We consider this so important in Kentucky that our board will recognize no school after this year which does not provide a course in medical economics, which embraces most of these matters. I gave notice to the House of Delegates in my annual report that I intended to take this up systematically with every state board of medical examiners and student body in the country. It is my intention to urge students to avoid schools which have not the enterprise to teach such a course, and to urge boards to refuse them recognition. It is due every student that he be molded and shaped right in these matters before he is baked, even if some of the frills of modern medical education have to be omitted to do so. This will be only a benefit to future students. For those already in practice it is proposed to give blackboard exercises and other object-lesson methods a prominent place in the postgraduate course for county societies.

Dr. Torald Sollmann, Cleveland, Ohio: The teaching of materia medica has been justly blamed for this ignorance. On the other hand, how much good will it do to teach prescription-writing to men if they are taught to prescribe nothing in the hospitals excepting by numbers? It is important that the student should not be led to prescribe number so-and-so, but to write the formula.

Dr. J. N. McCormack, Bowling Green, Ky.: Such teaching is given because many college professors do not understand these things themselves, *and do not see their* importance either in hospital practice or in the teaching course. It is a part of the same defective system and that has always cursed medical education in the United States. The time has come for reform.

Dr. F. E. Stewart, Philadelphia: In this country are several thousand graduates in pharmacy who are educated, trained, and licensed to practice this art. On the other hand, we have a large number of persons who are invading the pharmaceutic field without education, training, or license. As stated by Dr George M. Gould, "any person except a physician or pharmacist can practice medicine and pharmacy in the United States without a license." All that such persons have to do is to call themselves manufacturing pharmacists or chemists and practice at wholesale. The U. S. P. and N. F. propaganda should draw a clear line of demarcation between qualified and unqualified practitioners. It is not a question whether products are manufactured on a small or on a large scale, but whether the manufacturing of pharmaceutical preparations shall be conducted by qualified practitioners, and in conformity with standards jointly adopted by the medical and pharmaceutical professions. The present tendency is to reduce all pharmacists to the level of the lowest druggist engaged in the business. To obviate this tendency, physicians should specify the pharmacists to whom their prescriptions should be taken. Without this specification patients are liable to take their pre*scriptions to druggists* who furnish medicines at the cheapest price without regard to quality. That is the natural tendency, *and it will continue unless physicians do* something more than specify U. S. P. and N. F. on their prescriptions. Physicians who believe that it is not ethical for physicions to specify the pharmacist are not acquainted with the principles of medical ethics of the American Medical Association. To remove the difficulty in the way of such specification, pharmaceutical organizations should limit their membership to professional pharmacists and place lists of their members in the hands of physicians so that they may exercise proper discrimination in selecting pharmacists to compound their prescriptions. When the Pharmacopeia requires that each 100 c.c. of finished *fluidextract or tincture shall contain a definite* stated amount of active principle, that does not mean that the pharmacist shall assume that his *preparation is standardized* because made from a standardized drug. It depends on the skill of the pharmacist or manufacturer conducting the operation of percolation whether or not 100 c.c. of the finished product contain the required amount of active principle. No pharmacist conducting the operation of percolation is in position to state that his finished product corresponds to the standard of the Pharmacopeia without assaying the finished product. No pharmacist can carry on his shelves preparations under *pharmacopeial names* but *not conforming to pharmacopeial* standards without rendering himself liable to the penalties of the various food and drug laws. If the pharmacist is not manufacturing on a sufficiently large scale to standardize his finished products he should buy them from manufacturers whose products conform to the requirements of pharmacopeial standards. The pharmacist can, by visiting the laboratories of the manufacturers, make sure that these standards are being maintained. The pharmaceutical societies should appoint committees to investigate the matter. Physicians, pharmacists and pharmacologic manufacturers should cooperate in *promoting progress in pharmacology. They can* do so in no better way than by joining this Section and taking part in the propaganda for elevating the standards of pharmacologic practice now being carried-on jointly by the American Medical Association and the American Pharmaceutical Association through this Section in conjunction with the Council on Pharmacy and Chemistry of the American Medical Association.

Alexander S. von Mansfelde, Ashland, Neb.: Not long ago a county society set about improving the medical profession. The members resolved that they would not order any more proprietary medicines and would prescribe the preparations of the United States Pharmacopeia. They were somewhat afraid of one another, and they signed their names. The next day they started out in good faith to prescribe the preparations of the U. S. Pharmacopeia. What happened? The druggists of that city of 10,000 inhabitants almost burned out the telephones and the telegraph wires to get preparations of the Pharmacopeia so that they could prepare the prescriptions. What is the comment on that? Not that the men who live in *that beautiful little city have no brains; not* that the teaching which they received in the schools was imperfect. It was mental laziness on the part of these physicians that caused the disuse of the Pharmacopeia. My good friend from Bowling Green is going to tell them to mend their ways and to educate the young men not to do as the older ones have done. The young minds are going to take care of themselves, I warrant you. The young men wonder why we were ever permitted to practice medicine! You men with gray hair, why don't you mend *your* ways? *I have been* a teacher in a college off and on for thirty years, and men who were my students know *more in a minute* than I know in a year! Go home, you men here, go to your several counties and do what we have done in our county. We warned the members of our county society that if they did not quit prescribing proprietary medicines and go back to the Pharmacopeia preparations their names would be dropped; they would go out of the county society flying, and ere long, too; during my life time possibly.

Dr. Robert Hatcher, New York: I wish to corroborate what Dr. Sollmann said about hospitals contributing to this condition. Every man who goes through Bellevue Hospital, in New York, remembers one mixture there, universally called the "early bird." The name is so suggestive that the student never forgets it. There are hosts of these remedies constantly used; some go by numbers, some by catchy names. I have never yet seen a student who had used the "early bird" who knew what was in it. When asked what it is he says, "I don't know; the pharmacist knows."

Dr. J. N. Jenne, Burlington, Vt.: Why do the teachers of these subjects in the medical schools give instruction on other than pharmacopeial remedies? It is because they know that the student who goes out with no knowledge of the extrapharmacopeial remedies and preparations would stand little chance of success before state boards. The teacher is no longer free to give instruction in the use of such remedies as he may esteem essential to the student, in order to make him a good therapeutist, but he is called on to prepare the student to pass a successful examination before any and all of these boards, unfortunately not of one mind in this matter.

Dr. Emanuel Manko, Kansas City, Mo.: I was a pharmacist in Philadelphia in 1895; I was graduated at the Philadelphia College of Pharmacy. During that time I had charge of the prescription department of Bullock and Crenshaw. Physicians were prescribing a preparation known as antifebrin, known to-day as acetanilid and worth to the manufacturer about three cents an ounce. They charged at the time $1 an ounce. You can see what a tremendous profit these men make. Aubergier's syrup of lacucarium was supposed to be free from morphin. It is acknowledged, since the Food and Drugs Act came into force, that it contains morphin. Another evil that has crept into the drug business is the sale of liquor. There are druggists wholly unfit to be druggists largely on that account, and I blame that more than anything else for the retrogression of the drug business.

Dr. J. M. Patton, Chicago: As a teacher of medicine for about twenty-five years and as a hospital man for nearly that length of time, I have had a good deal of interest in this question under discussion. There are two phases of it which are of immediate interest to us as physicians: how to get at the root of the trouble, and how to do away with the practice of prescribing these proprietary remedies. I heartily endorse what Dr. McCormack has said about the root of the difficulty being in the teaching of medicine. The present-day graduate is more deficient in his knowledge of prescribing than in any other one branch of his medical education. When you examine candidates for hospital interneship have them write a most erudite paper on the technicalities of diagnosis; then have them try to put 20 drops of tincture of digitalis in a capsule, and you will be convinced that they are not fit to prescribe for the patient on whom they have already made a diagnosis. Most of these students have no knowledge of the physical properties of drugs; they do not know what a given mass would look like if made up and into what size capsule it would go. At the same time they can detail the physiologic effects and incompatibilities of the drugs they are using. It lies with the department of therapeutics largely, in the curriculum; secondarily with the department of clinical medicine to correct these faults. I believe that the medical schools should be required to give a definite course in pharmacology and prescribing. Their students should be required to pass just as strict an examination in these branches as they do in clinical medicine, in the various departments of diagnosis, etc. I also endorse what Dr. McCormack has said regarding a propaganda through the state societies. I believe that if they would energetically demand that all candidates for state certificates be required to demonstrate their ability along this line much of this trouble would be avoided. I believe that the efforts of the Association are already bearing fruit in preventing the prescribing of proprietary mixtures. A well known druggist in this city told me that he was not putting up more than one-fifth or one-sixth as many prescriptions for proprietary mixtures in the last six or eight months as he did four or five years ago. He told me, too, that whereas he used to buy a certain patent preparation by the great gross he now buys a quarter of a dozen at a time. He attributed this largely to the propaganda of the American Medical Association against the prescribing of proprietary mixtures and in educating the public against the use of proprietary medicines.

Dr. Daniel M. Hoyt, Philadelphia: The official names of National Formulary preparations seem to me unnecessarily complicated and difficult to remember. These preparations were discussed at one of our Philadelphia meetings recently. I heard only one physician use the National Formulary names. The older proprietary names were usually substituted. It is now often difficult to obtain the preparations when they are prescribed. The other day I prescribed "Fluidextractum Rhamni Purshianæ Alkalinum N.F." The prescription went to New York City. The patient came back to me, stating that the druggist had said that he had sent all over the city for the preparation and finally had to put it up himself. I believe the prescribing of official preparations to be important because it creates a demand for preparations having the standard of the Pharmacopeia and National Formulary, rather than of any manufacturing chemist.

Dr. Arthur T. McCormack, Bowling Green, Ky.: After the first publication of the remarkable findings of the Council on Pharmacy—findings at once disgraceful to our profession and of the greatest danger to the public—this whole matter appealed to the organized doctors of Kentucky as a question of the first practical importance, and as a result of our work we now have a large part of our 4,100 medical men actually doing the things that you are talking about. It would be well if those present who need none of this propaganda—to whom even the splendid paper of Dr. Osborne is no revelation—could go back home and through their own and adjacent county societies multiply it so that its influence could reach the stay-at-homes, so as to get both druggists and doctors so interested in these matters that they will demand enough information to enable them to understand them. Most of the men using the dishonest mixtures—proprietary or not—of unknown composition, are honest men, but ignorant. If they can but be made to understand the danger of their ignorance to their patients we shall some time have only the right sort of doctors in the United States.

All this applies equally to the druggists. If our profession but demands it, we will no longer have venereal diseases treated by the class of men who are unable to compound the National Formulary preparations. These twin disgraces to the drug trade can be gotten rid of only by education of the druggists by the doctors. The man who sells alcohol, or morphin, or cocain over his counters to women and children who are ignorant alike of the contents of his mixture and of the ailments from which they suffer, is a far worse man than the saloon-keeper who sells pure liquor or pure beer to men who know what they want. If the doctors understand this question they can educate the druggist if they will. I have little respect for the influence of the physician who writes a prescription if he can not send his patient to an honest, competent pharmacist to have it filled. In Bowling Green to-day—and in most Kentucky towns—most of the doctors are so controlling their prescriptions that competent men fill them, and if the right sort of druggist is not in their county they purchase and dispense their own drugs, as they should. The doctors are responsible for the whole condition. Good men say that they can not keep their patients from going to druggists they know to be dishonest "because that druggist is one of my patients." One has no more right to send a patient to such a druggist than to send a friend to an insolvent bank. Either is a breach of trust. In the name of our state association our president sent a personal letter to each of the 4,100 registered physicians, telling him what the Council on Pharmacy was doing. Our councilors carried the message to all who could or would hear—and some were deaf in their proprietary ear too. To each one was sent a postal card, which, when signed, pledged his word of honor as a gentleman and physician that he would no longer use any medicinal preparation of whose contents he was not informed by the highly scientific and honorable body created by the American Medical Association, the Council on Pharmacy, unless it was an official preparation. There are to-day only about 300 doctors in Kentucky who can write a prescription for the nostrums without the Lord at least knowing that they have violated a pledge of honor. Besides this, we have pushed the excellent Manual of the Pharmacopeia, prepared by The Journal, until it is in the pockets of four-fifths of the doctors of Kentucky as a constant ready reference, so that as they ride from patient to patient they may have an opportunity to consult its pages and learn now some of the things about pharmacology and materia medica which the teachers in their colleges failed to put before them at the proper time. Besides, the "New and Nonofficial Remedies" and other publications of the Council have been placed in the hands of our members, and our State Board of Health has mailed 12,000 copies of the "Great American Fraud" reprints from Collier's to prominent laymen all over the state. I have heard men say: "We think that the druggists should furnish us these things." The druggist ought to furnish us with nothing except what we pay for!

Dr. C. S. N. Hallberg, Chicago, Ill: Acting on the precedent set by the Philadelphia Branch of the American Pharmaceutical Association at the meeting in Atlantic City a year ago, the Chicago Branch of the American Pharmaceutical Association had a display of preparations. These preparations are made mostly by students, and I dare say that if you compare them with any other manufacturers' exhibits in the building you will find that they compare favorably. So that gives the lie to the charge often made by the travelling agents that pharmacists can not prepare these preparations. They can if they want to, if fairly competent, honest and careful. At the meeting in Portland three years ago a committee of reference and resolutions reported resolutions to this Section in which the statement was made that "the nomenclature is the crux of the proprietary medicine situation." As long as physicians prescribe medicines by their euphonious names they are simply playing for the "patent medicine" men. They should have remembered to write, for example, dimethyl-phenyl-iso-pyrazolon instead of the patent name antipyrin, and instead of urotropin they should write hexamethylenamin. If they can remember the name of the diseases described by Dr. Terry here yesterday (trypanosomiases and spirilloses) there is no reason why they should find difficulty in writing hexamethylenamin or dimethyl-phenyl-iso-pyrazolon. There is more self-medication created by the physician writing the proprietary names than by any other method, and the physician must realize that if he wants to have the great convenience of writing for ready prepared medicine an elixir or synthetic chemical, he must sacrifice himself sufficiently so as to write the full name, not the patent name. Otherwise, he is taking great chances because these proprietary pharmaceuticals or synthetics are just as bad for the public as Pierce's or Peruna. There is no distinction between them in the wholesale drug list, they all come in the same alphabetic order.

Dr. Oliver T. Osborne, New Haven, Conn.: Let the next Committee on Revision of the Pharmacopeia put official abbreviations after those long names and the matter is settled. As a teacher of materia medica, pharmacology and therapeutics, I find that it is difficult to compel students to write the long pharmacopeial names. Our students at Yale begin to study materia medica in the second year, and study pharmacology all through the third year. At the end of the third they write better prescriptions than at the end of the fourth, and at the end of the fourth they write better prescriptions than after they get out of the hospital. That is no fault of the colleges. It is up to the dispensaries and hospitals to finish what we aim to teach, viz., the individualizing of all patients and not prescribing by numbers.

I investigated the marks on materia medica in the state examinations. I found that in Connecticut the marks were low. It seemed a reflection on me and my department that the lowest averages of any of the examinations were in materia medica, and the young medical men took the examinations after two years of hospital work. I investigated some of the other states and found the same thing to be true, and then I tabulated for fifteen years the different colleges and the examination marks in materia medica and pharmacology in Connecticut. I won't say what I found out, but I did not feel as badly as I did before. Some of our best colleges in the United States had marks in materia medica away down below our second grade colleges, showing there had been in these colleges too little time devoted to the study of materia medica and therapeutics. Our students in the second year have a course of pharmacy demonstrations. Between the end of the second year and the following Christmas of third year every individual man spends fifty hours in the prescription department of a city drug store, under the instruction of the assistant demonstrator of pharmacy. The student prepares a certain series of pharmacopeial preparations and sees the prescriptions that come into the store. These prescriptions are copied into notebooks and the notebooks are handed to me. The physicians' names are always omitted. The greatest pleasure I have is in marking off the many proprietaries used and correcting positive errors. This is a demonstration to students that is hard to beat.

Dr. M. H. Fussell, Philadelphia: There is at least one large dispensary in this country which sees over six thousand patients a year, in which the prescriptions are not given by number and are not given by titles of ready-made prescriptions.

ARSENIC IN DISEASES OF THE SKIN;

WITH OBSERVATIONS ON SODIUM CACODYLATE AND ATOXYL.*

M. B. HARTZELL, M.D.
PHILADELPHIA.

The history of arsenic as a remedy in diseases of the skin practically begins with the opening of the last century. It is true that scattered references to its use in cutaneous eruptions of various kinds may be found in medical literature long prior to this period, but its introduction into dermatologic therapeutics was due almost entirely to the writings of English physicians in the early years of the nineteenth century. One of the earliest writers to recommend arsenic in diseases of the skin was Dr. Thomas Girdlestone, who, in a letter published in the *Medical and Physical Journal* of London in 1806 reported "some hundreds of cures of lepra, lichen, prurigo, psoriasis, etc." Its use soon spread to the continent, especially to France, where it speedily became a favorite remedy in every kind of cutaneous affection. In France Rayer found that arsenical preparations were especially useful in certain chronic eczemas of the scrotum, anus and labia, but, strange to say, he regarded them as sometimes dangerous in bullous affections, a class of diseases in which, according to later writers, arsenic displays most strikingly its remedial powers. He also found them sometimes required in various forms of lichen, but thought they were often abused in psoriasis, although likewise sometimes used with success. While this author regarded arsenic as of "incontestable use" in various forms of cutaneous disease, he was by no means so enthusiastic as some of his successors. He formulated careful rules as to its indications and contraindications, advising small doses and the immediate suspension of the remedy on the appearance of untoward effects.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Cazenave, Bazin and Devergie regarded arsenic as a more or less useful medicament in various diseases of the skin. Devergie thought it especially useful in the squamous affections, but he also believed that benefit was to be expected from it in certain forms of eczema.

The most enthusiastic advocate, however, of arsenical medication in cutaneous diseases was Thomas Hunt. This author believed that there were few diseases of the skin in which arsenic might not be used with benefit, and, as he regarded it as a harmless remedy, advised that it should be pushed until symptoms of its toxic action appeared.

Erasmus Wilson thought that there was "no remedy more valuable in cutaneous medicine than arsenic." He looked on hyperemia of the conjunctiva as evidence of the saturation of the system with the drug, and so long as this hyperemia did not increase it might be continued. He declared there was "no age and scarcely any circumstance under which arsenic may not be administered when employed with judgment."

Hebra was far from accepting unchallenged the enthusiastic recommendations of his English and French predecessors and contemporaries, many of whom found in arsenic a remedy for every cutaneous disease. He especially criticized the practice of Hunt in using it freely as being highly dangerous. While he admitted its usefulness in psoriasis and possibly in lichen ruber, he thought it was but little likely to be of service in eczema.

In consequence of the enthusiastic writings of the English and French dermatologists of the first half of the last century, arsenic had an enormous vogue in the treatment of diseases of the skin, and there were few affections of this tissue in which it was not administered. Owing probably in part to the great influence which Hebra wielded in dermatologic matters during his active career, its popularity began to decline in the last quarter of the past century and at the present time its use is very much restricted indeed as compared with that of fifty years ago.

ECZEMA.

There is a general agreement at the present time that arsenic should never be employed in acute inflammatory conditions of the skin. In these it is almost always without exception harmful; and this excludes its use in all cases of acute eczema. But there is not the same agreement about its efficiency in the chronic forms of this affection. Hardy, whose Traité de Maladie de la Peau appeared in 1886, still adhering to the traditions of the French school, thought that arsenic was the medicament *par excellence* in the treatment of eczema, upon condition, however, that it was administered at the proper time. He believed that it was of incontestable value in eczemas which had lost their acute character, especially in the dry and scaly forms.

Besnier, on the other hand, writing exhaustively on eczema in La Pratique Dermatologique, declares that the action of arsenical medication in true eczema has been very much exaggerated, and that it is excessively abused. He thinks its action neither specific nor universal, nor constant, nor uniformly favorable. He regards infancy as absolutely contraindicating its administration. Crocker has found it "a most disappointing drug in eczema." Unna thinks it is frequently useful in very dry pityriasiform and callous eczemas, particularly if the skin is anemic and the hair dry, but it is always an uncertain remedy. Duhring regards it as "unquestionably of benefit in some cases, most valuable in the chronic papulo-squamous forms." Hyde and Montgomery think it an uncertain remedy, aggravating as many cases as it relieves; but they, too, think that its value in the chronic papular and scaly forms of the affection is undoubted.

From the foregoing quotations from some of the most recent standard text-books, French, English, German and American, it is evident that opinions as to the usefulness of arsenical medication in eczema are pretty evenly divided. Most observers agree that it is at best uncertain, and that, if it is useful at all, it is only in the very chronic forms characterized by dryness and desquamation. My own experience with it in eczema would lead me to place very little reliance on it. I do not recall a single instance in which it seemed to be of the slightest use, although I have tried it in a fair number of cases of chronic eczema in which other treatment had not produced satisfactory results.

PSORIASIS.

Whatever difference of opinion there may be about its usefulness in eczema, dermatologists are practically of one mind in attributing to it more or less efficiency in the treatment of psoriasis. It is in this disease that it displays its remedial uses most brilliantly, but while all admit its usefulness, they also admit that it frequently proves disappointing. It is by no means adapted to the treatment of every case and unless used discriminatingly it will be sure to disappoint its users as often as it meets their expectations. It should always be withheld when the eruption is markedly hyperemic or when it is spreading rapidly. In such cases it always increases the patient's discomfort and seems to increase the eruption. It undoubtedly does best in recent cases, or in those which have not previously had arsenical treatment. Devergie long ago advised that it should not be given in old cases in which it had already been employed.

LICHEN PLANUS.

Although occupying a much less conspicuous place in the treatment of lichen planus than formerly, it is yet regarded by most authors as a very useful remedy in the chronic forms. Kaposi, and indeed all the Vienna school, give this medicament the first place among the internal remedies useful in this disease. Jarisch thought that in the treatment of the various forms of lichen the chief rôle belonged to arsenic, notwithstanding all that had been brought against it in recent years. Stelwagon thinks it has a directly specific effect in some cases. Crocker, on the other hand, scarcely ever uses it, having replaced it with other, and, as he believes, better remedies. My own experience leads me to assign it a foremost place among the internal remedies useful in the treatment of chronic lichen. I find it especially serviceable in the cases in which the eruption occurs in limited areas, forming more or less scaly patches and in which there is little or no itching. In the cases in which the greater part of the skin is involved, and in which there is marked pruritus, it is apt to increase the latter and seems to influence the course of the disease but little. In such cases other remedies, such as the various salicylates, will be found more useful than arsenic.

PEMPHIGUS.

Mr. Jonathan Hutchinson has declared that arsenic is a specific in chronic pemphigus, but few other authors of the present day are willing to go so far. It is generally regarded, however, as one of the most useful, if not the most useful, internal remedy in this malady. While a cure can not be expected from its use, it undoubtedly does diminish the liability to relapses, lengthening the interval between the outbreaks of the eruption often very decidedly. In a case of chronic pemphigus under my observation during the past two years, so long as arsenic was given in considerable doses the patient was practically free from eruption, but when it was suspended for even a short time a new crop of blebs soon made its appearance.

DERMATITIS HERPETIFORMIS.

Much the same may be said about the use of arsenic in dermatitis herpetiformis as in pemphigus. It frequently exhibits a decidedly inhibitory influence on the disease, controlling the outbreaks but not curing it.

SARCOMA OF SKIN.

There is considerable evidence to show that arsenic, especially when employed hypodermatically, is sometimes useful in sarcoma of the skin and more particularly in that variety first described by Kaposi under the name of idiopathic multiple hemorrhagic sarcoma. Köbner has reported the cure of two cases, and De Amicis, who treated thirteen cases in this manner, obtained essential improvement in two, arrest of the disease in four, almost complete recovery in one and an entire cure of a boy 15 years old, this last after 100 injections. In view of these reports, arsenic should always be tried in this affection. In the case of idiopathic hemorrhagic sarcoma, reported elsewhere,[1] which has been under my care for the past year, arsenic by the mouth, with the local use of the *x*-ray, has been followed by very favorable results. The area involved in the disease had been slowly but steadily enlarging, new lesions appearing from time to time some distance from the original patch on the foot, but since the adoption of the arsenic treatment the further spread of the malady seems to have been arrested.

MYCOSIS FUNGOIDES.

In a small number of cases of mycosis fungoides arsenical treatment has seemed to be of use in favorably modifying the course of the disease, and Köbner and Geber have both reported a cure, but in the opinion of most authors but little is to be expected from such treatment in the majority of cases. Since in both sarcoma of the skin and mycosis fungoides some of the lesions not infrequently undergo spontaneous involution, it is often exceedingly difficult in any individual case to determine positively just how much of the improvement occasionally noticed is due to treatment.

In recent years a number of new arsenical compounds have been brought to the notice of the profession by enterprising manufacturers for which more or less extraordinary therapeutic properties have been claimed. Chief among these are cacodylic acid and its sodium salt, and quite recently atoxyl, a compound of arsenic and anilin, the former containing the equivalent of 55 per cent. of arsenic and the latter 24 per cent. By means of these new compounds enormous quantities of arsenic may be introduced into the system without toxic effect, and owing to their great solubility and the non-irritating character of their solutions they are particularly adapted to hypodermatic use.

SODIUM CACODYLATE.

My experience with sodium cacodylate has been limited to its use in ten cases of psoriasis of the ordinary type and of average severity. It was given by the mouth, in doses varying from ½ to 1¼ grains, repeated three or four times a day. In three of the ten cases more or less improvement was noted after the larger doses had been reached, but this improvement was not greater, nor did it appear earlier than after the use of arsenious acid or Fowler's solution. In one of the cases, a woman 27 years of age, in which there was at first improvement, numerous lesions appeared while she was taking ¾ of a grain, three times a day; this patient also complained of being "very nervous" after taking the drug for a period of two weeks. In one case the patient refused to continue the remedy because of the very offensive odor of garlic which it imparted to her breath, and in another case it had to be discontinued because of a severe diarrhea, although it was well borne in all the other cases. After a few months' trial it was abandoned because, while it produced some improvement in some of the cases, it did not seem to possess any real advantage over the older well tried remedies.

ATOXYL.

In 1902 Schild[2] reported a series of 75 cases of various diseases of the skin treated by hypodermatic injections of a recently introduced compound of arsenic and anilin named atoxyl. In all the cases of psoriasis treated by this remedy, a favorable influence on the eruption was noted. In a case of xanthoma diabeticorum the eruption disappeared completely after 22 injections, and 13 out of 14 cases of lichen were cured. In a second series of 50 cases published, a few months later,[3] including such diseases as psoriasis, dermatitis herpetiformis, pemphigus, lichen, equally favorable results were observed. Biringer,[4] von Zeissl,[5] Moller[6] and others have reported equally gratifying results from the use of this remedy in diseases of the skin, the curative effects being especially marked in psoriasis and lichen.

During the past three months I have used atoxyl in eight cases of psoriasis in the wards of the Philadelphia Hospital. In every case it was given hypodermatically in doses of 25 to 50 minims, of a 10 per cent. solution, at intervals of two or three days, the injections being made into the gluteal muscles.[7] During the treatment all external remedies were suspended. In all of the eight cases more or less improvement in the eruption was observed, the improvement usually beginning after the third or fourth injection. In one case, after six injections with beginning improvement, the treatment was suspended for two weeks; during this period new lesions began to appear and continued to do so until the resumption of treatment, when the eruption again began to undergo involution. In the most extensive case of the series in which the eruption was well nigh universal, improvement was noticed after the fifth injection and this improvement continued until the fourteenth, when somewhat suddenly new lesions began to appear on all parts of the body. After the seventeenth injection the eruption again began to show signs of improvement, the new lesions, as well as the old, growing paler, but the patient leaving the hospital the treatment could no longer be continued. Two weeks later the patient returned to the hospital, and it was then noticed that the eruption had disappeared completely from the hands and arms and was much improved on the rest of the body. In a young woman, 18 years old, the eruption had practically disappeared after twenty-six injections. The greatest number of injections given any one case was twenty-seven, the treatment extending over a period of two months. In this case there was also almost complete disappearance of the eruption.

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[1] Jour. Cutaneous Dis., March, 1908.

[2] Berliner Klin. Wchnschr., 1902, No. 13.

[3] Dermatologische Ztschr., 1903, No. 1.

[4] Therapeut. Monatschr., August, 1903.

[5] Wiener med. Presse, 1903.

[6] Berliner Klin.-therap. Wchnschr., 1904.

[7] For carrying out the details of this treatment and the preparation of the notes. I am indebted to Dr. F. C. Knowles. assistant dermatologist to the Philadelphia Hospital.

It will be observed from the foregoing summary that while every one of the eight cases responded favorably in some degree, in only two was there anything like an approach to a complete disappearance of the disease. This is not a very brilliant showing, especially when compared with the results reported by Schild and others, but it should be remembered that in my cases the atoxyl was given alone, while in the cases treated by Schild the usual external remedies were employed conjointly with the atxoyl injections and a part of the cure at least is fairly attributable to the local treatment.

In addition to these cases of psoriasis I have recently had an opportunity to try atoxyl in a severe case of pemphigus, occurring in a man, 68 years old. Before coming under my care this patient had been given considerable quantities of Fowler's solution, without controlling the eruption, until severe abdominal pain and diarrhea compelled its suspension. At first a daily injection of 30 minims of a 10 per cent. solution was given, and this was continued for about one week. At the end of this period there was a marked improvement in the patient's condition; new lesions had ceased to appear and the old ones were drying up. The atoxyl was now stopped through some misunderstanding and there was shortly a new outbreak of blebs on all parts of the body. The injections were then resumed, this time two of 30 minims each were given daily at intervals of twelve hours, and at the end of one week the disease again seemed to be under control. At the present time the patient's condition is better than any time since the beginning of the disease. Notwithstanding the large quantity of the drug taken, the only toxic symptom noticed was marked tremor of the arms and legs, which came on after 6 grains a day had been taken for six days; but this promptly disappeared with the temporary suspension of the treatment.

From my experience, limited though it is, I am led to conclude that atoxyl, like sodium cacodylate, does not possess any therapeutic properties not to be found in arsenious acid, Fowler's solution or the arseniate of soda. Owing to its great solubility in water and freedom from irritant properties, it is, however, especially adapted to hypodermatic use, a method of using arsenic often preferable to administration by the mouth and one which usually gives superior therapeutic results.

In conclusion, I desire to say a word or two about an untoward effect of arsenic which deserves the serious consideration of every one who essays to use this potent drug in chronic diseases. It is now well established that the long continued use of arsenic, especially in considerable doses, may be followed by circumscribed keratoses on various parts of the body and more particularly on the palms and soles; and Mr. Jonathan Hutchinson some years ago called attention to the fact that epithelioma may develop at the site of these keratoses, an observation which has since been confirmed by a number of other observers, so that there are now at least twenty cases of such arsenical epithelioma to be found in literature.

WORK CURE.[*]

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Before we began the study of psychology and of so-called mental philosophy, many of us over-rated the value of that kind of knowledge. The science of mind, the study of wisdom—these surely should have power to teach a man how to think and how to live.

If we were disappointed—those of us who looked for practical guidance in the psychologic and philosophic teachings of twenty years ago or of forty years ago—we may note to-day in the work of psychologists qualities of promise and of partial attainment—precision, modesty, enthusiasm, practicality. To illustrate, let me quote this one suggestion by William James

> We live subject to arrest by degrees of fatigue which we have come only by habit to obey. Most of us may learn to push the barrier further off, and to live in perfect comfort on much higher levels of power.

Scientific psychology is receiving a self-conscious increment, although a small one, from pseudoscientists, from men of one idea, from quacks, who successfully apply, by methods which are repulsive and ignorant and unsound, the soundest of scientific principles; and psychology is seeing and admitting its indebtedness to quackery.

The millions of dollars which have gone to build temples to the honor of Mrs. Eddy, and the millions in medical fees paid to Christian Science healers, constitute a costly demonstration of one permanent scientific fact—that mind-cure is practically useful. Whoever pays the price, this knowledge is ours.

Keenly aware as we are of the value of the psychotherapeutic principles which Mrs. Eddy and her followers have hit on, our estimate of the absurdities of the cult still lacks the proper perspective. Denial of the existence of pain continues to have for us a semblance of reprehensible error, while the average layman sees in such an idea a huge opportunity for good natured ridicule.

The man in the street is also relatively more ready than we are to take the next step in advance in psychotherapeutics. He is vastly entertained by the mental picture of a Christian Scientist cheerfully oblivious of toothache, but he also soberly assents to the psychologic proposition that any man who has a toothache suffers less if he keeps busy. When our typical therapeutic juryman hears evidence that the Earl of Dunmore spent seven months in close communion with bubonic plague, and escaped infection by practicing the precepts of Mrs. Eddy, the evidence is accepted for only a little more than it is really worth. But when testimony is adduced to the effect that one of the ablest men of our time, finding himself on the verge of a nervous breakdown, puts himself in the care of an ex-prizefighter, whose method of treatment is believed to depend mainly on strenuous muscular exercise, the resulting restoration to health is accepted by our juryman as fact, and the method of restoration appeals to him as eminently sensible.

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[*] Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The psychotherapy which nows holds the interest of some of the brightest men in our profession, defined and clarified by the teaching of Professor Dubois, is often lacking in the practical application of this sound, saving, commonplace psychologic law: Nature abhors a mental vacuum. You can't drive out morbid thoughts and keep them out, unless you fill their places with thoughts that are more healthy.

In the treatment of hysteria, as in pedagogy, suggest that an idea is erroneous and you sometimes rivet that idea all the more firmly in the mind. Worry is an endless chain. Tell a man not to worry, and he worries for fear he may worry. He is afraid that he has decided wrongly, but is doubtful whether the opposite decision would be really right.

Our therapeutic purpose is seldom accomplished by telling a patient not to be afraid. To clear the tracks, however, we may rouse his sporting instinct; ask him what is the worst thing that could happen if he decided wrongly and stuck to the wrong decision; then sidetrack his morbid thoughts by giving him no time for introspection; awaken objective interests; make him play the part of a cheerful, active man; and because he is active, he will presently become cheerful.

For therapeutic substitution, Dr. Joseph Collins[1] suggests a study of Plato's philosophy. Dr. Herbert Hall[2] recommends the use of the hand loom to call out creative activity in mind and muscle. Whether the instrument be a potter's wheel or a pair of field-glasses pointed at a bobolink, a golf stick or a garden rake, a wood carver's tool, a fishing rod or a camera, is of minor consequence, if the neurones behind the nerves are aiming out and not in. The best work is play, the best play is work, and both are gaining recognition as means of cure.

Sometimes, for some people to spend three hours at the theater is hard labor. A vigorous opponent at tennis may be a severe taskmaster. One's guide in the woods may rebel at the work which his employer regards as merely strenuous sport. For therapeutic diversion, at least a part of the day's régime will naturally include, if possible, some form of neuromuscular activity, preferably in the open air.

The invention of the medicine ball was probably not the earliest conscious effort to use the curse of Adam as a means of cure; but even now the literature of the subject is relatively meager. Among the first to discuss the value of occupation as a means of therapy were the superintendents of asylums for the insane. As is natural, where the need is greatest, the means of supplying the need have been most fully appreciated; and it has been in the treatment of the insane, and of epileptics, and in the education of the feebleminded that the systematic use of occupation has hitherto shown most striking results.

Although the primary purpose in providing work for inmates of public asylums was to reduce the cost of support through getting done by patients rather than by paid helpers certain parts of the labor of the farm, the laundry and the various repair shops, every observer of the results of this plan has noted also the incidental effect which work has had on the worker.

More than twenty years ago, Dr. G. A. Blumer,[3] who at that time was superintendent of the State Hospital at Utica, N. Y., published observations of the palliative and occasionally curative effects of manual occupation. Dr. Blumer's faith in work as a means of cure apparently grows with experience. In his report for 1908, as superintendent of the Butler Hospital, Providence, R. I., he says it often happens that "improvement seems to date from the first time the patient entered a shop or workroom."

In the treatment of epilepsy, manual training and the varied interests of colony life have now a value so fully demonstrated, that the example set by the states of New York and Massachusetts, at Sonyea and at Palmer, is creating similar institutions in other progressive states.

So, too, in the education and management of the feebleminded, systematic manual labor has won for itself a place of unquestioned importance.

Idiots and epileptics and lunatics are many; but all together they are less numerous than the victims of nervousness—the people afflicted with lesser grades of psychasthenic and neurasthenic inadequacy, who become devoted epicures of their own emotions, and who claim a large share of the attention of every general practitioner and of every specialist.

The psychoanalytic methods of Freud and Jung, even when employed with subtlety and success for tracing a morbid habit of thought back to the emotional trauma in which it began, constitute only a preliminary procedure, to be followed by measures which are synthetic and restorative. Moreover, psychoanalysis is sometimes dangerously suggestive.

At the Adams Nervine Asylum, Jamaica Plain, an endowed institution, the privileges of which are restricted to residents of Massachusetts, and to patients who are not insane, a workroom has been in operation for two years. "It has furnished a department in which the atmosphere of illness is distinctly lacking and where a spirit of interest in tangible and practical occupations is present. Discussion of symptoms is entirely forbidden. It has convinced patients that they can do things worth while, although they have long been possessed of the contrary notion." The resident physician, Dr. D. H. Fuller, finds this form of treatment increasingly useful.

At Katonah, forty miles from New York City, Dr. E. A. Sharp is using the farm and the workshop, the toboggan shute and the saddle, as means of cure.

During the past nine years, Dr. Philip King Brown, of San Francisco, has made use of occupation as a means of therapy, in private practice, and also at his sanitarium in Santa Barbara. Dr. Brown has used basketry, sloyd and carpentry, the carving and stamping of leather, botany, gardening, ornithology, geology and even astronomy—"any occupation which will train the patient's mind to run naturally in a different channel. It is not so much the work," he says, "as the way you inspire the person to take it up. The psychic influence is without question the largest part. That form of work is best which interests the patient and leads him on to more and more thought of things outside himself."

These principles, which include a wise and salutary neglect of subjective symptoms, have been practically applied at Bethel, Maine, by Dr. John Gehring, and at Heath, Mass., by Dr. Grace Wolcott, of Boston.

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[1] Am. Jour. Med. Sci., February, 1908.
[2] Boston Med. and Surg. Jour., Jan. 12 and July 13, 1905.
[3] Am. Jour. of Insanity, 1897, vol. liv, No. 2.

A majority of the physicians who have given attention to this subject, regard the material article, produced as a result of labor, as being in itself relatively unimportant. This is not the belief of Dr. H. J. Hall, of Marblehead, Mass., who disapproves of the kind of work which represents conscientious activity and nothing more, and who insists on work which has inherent value. In his shop of arts and crafts, Dr. Hall encourages his patients to produce pottery, rugs, and various articles in metal and wood which shall evince a genuine artistic merit. The proceeds of the sale of these articles is credited to the patient. Dr. Hall takes brokendown school teachers and makes of them successful artisans.

Clay modeling and basket weaving are now used therapeutically in the out-patient service of the Massachusetts General Hospital. Dr. Charles E. Atwood,[4] of New York, and Dr. Robert N. Willson,[5] of Philadelphia, have recently described various methods of utilizing, in practice, certain forms of diversion and of exercise.

It is a fair criticism of the beneficent modern treatment of tuberculosis—rest, forced feeding and fresh air—that some of its graduates are all too well content with their life of fed and fatted monotony. In a sanatorium for consumptives at Frimley, thirty miles west from London, the rest cure is supplemented by the work cure. Exercise is carefully graded from a short walk to a long excursion behind a lawnmower. Promotion is regulated by subsidence of fever, of certain subjective sensations, and of change in opsonic index. When conditions favor, the patient turns loose into his system a fresh dose of bacterial vaccines by more work. A diploma from Frimley is a practical asset.

Colony sanatoria for neurasthenics have not yet come into being in this country. In Germany, at Schönow, Rasemühle and Zürich,[6] beginnings have been made; and here carpentry, gardening, bookbinding and similar occupations hold high places in the prescribed régime.

The psychotherapy of Dubois and of Dejerine usually begins with a period of rest. Rest periods and diversity of employment are essential features in the programs which we construct. The experimenting physiologist tells us that a frog's nerve will respond to one irritant until exhaustion comes, and then, for a time, will respond to a different stimulus. Work, change and rest, which naturally succeed each other, sometimes successfully replace each other.

When we come into subconscious possession of the idea that occupation is frequently the finishing touch in therapeutic procedure, we utilize, perhaps unconsciously, an effective aggregate of apparently trivial means. In treating most of our patients, the end toward which we therapeutically struggle is heightened power of resistance to disease. For the development of antibodies is there any single agent more effective than work?

ABSTRACT OF DISCUSSION.

Dr. F. X. Dercum, Philadelphia: We neglect the matter of occupation too much. We should bear in mind the necessity of applying just such simple physiologic methods as have been advocated by Dr. Thayer. We are confronted by the three great neuroses, neurasthenia, hysteria and hypochondria. We can not put every neurasthenic at work because his nervous battery, so to speak, has been too much exhausted; but we should not neglect after a period of rest to start him at work. If the patient is not put back in the channel in which he is accustomed to expend his energy, or started in some new occupation, sooner or later recurrence may ensue. In case of hysteria, if there be no marked involvement of general health, the rest cure is often unnecessary. Only the direction of the energies into the proper channels is required. Of course, if the general health is impaired, rest methods, partial or complete, are imperative; the adoption of such methods should always depend on the judgment of the physician. In hypochondria, work—often strenuous and engrossing work—is the only thing that does good. The hypochondriac is simply obsessed by the idea of illness. We can not dismiss such a patient with the statement that he is not ill, because in one sense any departure from the normal state is illness; besides hypochondria is a well-recognized psychoneurosis. The highest degree of health is consonant, other things equal, with the highest degree of functional activity; functional activity of a high order is not only conducive to health, but also to longevity. All of the world's great men have beeen workers and almost all have attained great age.

One of the difficulties, of course, is to find an appropriate occupation for a given case. Sometimes I have a patient taught stenography and typewriting or I have her take a course in library work; I endeavor to find something that I hope will interest her. I know nothing more difficult than to select the proper kind of work. If the patient happens to be in the fortunate position of being obliged to earn a living, the problem is easier. Of course, the work cure is an instrument that is also capable of doing harm. We differ largely in regard to the amount of labor we are capable of performing without ill effect. It is necessary to use individual judgment in apportioning work and rest properly. In the great majority of cases work of some sort is of inestimable value, for it necessitates, among other things an objective, instead of an introspective attitude of mind.

Dr. Alexander S. von Mansfelde, Ashland, Neb.: The best proof of the pudding is the eating. In 1874, the founder of the College of Physicians and Surgeons of Chicago came to me, a young man in the profession, and asked me to translate for him a monograph on histology. I was so proud of the distinction that I overdid the work mentally and physically I collapsed. My physician caused me to leave my work at 4 in the afternoon and engage in what was then a new game, croquet. At first they could not get me out very easily; a little later, when 4 o'clock came I could not do anything in the work of translating. I am still here, and it must have done me good. Are not many physicians in the same condition as some patients outside of the profession? Is it not true that both need a vocation and an avocation in life—that avocation is the thing that overcomes many of our ills? My avocation has been the cultivation of flowers. I try to raise flowers that nobody else has ever raised. I use the hoe and spade, and the result is, I recuperate in my avocation after the intense work of the winter in my vocation. Winters in Nebraska are trying, and for twenty to thirty years I have traveled twenty to forty miles and more a day. This and the strain of trying to make the dollars, which were few enough, go as far as possible for thirty years, make it easy to go down hill. The avocation during the summer invariably restored me after the hard winter. So I am a living witness of the truthfulness of Dr. Thayer's statements.

Dr. Addison S. Thayer, Portland, Maine: The chief object of the paper was to call attention to work cure in everyday practice. Each of us can use it in constructing a daily régime for our patients. I first put together as a part of the paper a brief account of the application of the work cure as I had seen it in people whom I know, most of whom I had treated; but it is easy to see that such accounts do not lend themselves as case reports to a paper for publication. Dr. Dercum has said that hypochondria work cure is the only treatment. That is another way of stating that occupation has a wide range of therapeutic usefulness; for we know that many of our patients have in their symptoms some element of hypochondria.

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[4] The Favorable Influence of Occupation. New York Med. Jour., Dec. 14, 1907.

[5] The Pathogenesis and Treatment of Neurasthenia. Am. Jour. Med Sci., February, 1908.

[6] A Colony Sanatorium for the Nervous and Neurasthenic. George W. Jacoby, M.D., New York Med. Jour., April 18, 1908.

THE SERUM TREATMENT OF CARCINOMA.*

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Our therapeutic experience is replete with innumerable methods and remedies for the cure of cancer. The disease has been attacked from all sides; by the knife, by cautery and caustics, by catalysis, by *x*-ray and radium, etc., but all forms of treatment, in a great number of cases, have proved futile; even operation in the first stages of the disease, which has been lauded so highly, has often failed, and recurrence is still the rule in spite of the dictum that early operation will eradicate this terrible scourge.

After mature consideration, the examination of many pathologic specimens of all forms of malignant growths, the observance of same *in vivo*, and the careful perusal of all literature at my command I concluded that there must be some cause for the development of cancer other than local irritation. It seems that more attention should be devoted to the morphology of the blood and lymph circulation. There may be circulating in these media certain ferments or other elements necessary to the nutrition and multiplication of the embryonic epithelial cells which characterize every carcinomatous growth; therefore, it would follow that long before the cancer develops locally there is a constitutional dyscrasia which necessarily exists before any irritative or exciting cause can produce a malignant tumor.

We are further strengthened in this belief by the fact that metastatic deposits in other organs always are identical with the original growth. For instance: A cylindrical cell carcinoma will always produce the same glandular variety in metastases in the same individual, while transplantations invariably become absorbed, showing that there are other factors and ferments besides sufficient blood supply conducive to the development of these wandering deposits.

Whether the irritation we ascribe to the beginning formation of cancer, such as is produced by a blow: or of long continued inflammation or disturbances in the blood pressure concomitant with grief; or chemical, produced by interferences with the metabolic changes of the body, such as excessive meat eating and alcoholism; or whether hereditary influences determine the formation of these abnormal cell growths is a question which should be thoroughly investigated, not only theoretically, but practically. While epithelial proliferation has long been regarded as a necessary factor in the formation of cancer, still we are unable after numerous observations to explain why the epithelial cells penetrate deeply and spread out into the surrounding tissues, forcing their way into adjacent structures in spite of all the barriers nature erects. Does the epithelial cell in loco possess an inherent property of itself, or does there circulate in the lymph and blood stream a ferment whose action is to stimulate atypical epithelial cell proliferation?

The latter theory seems correct, as thus far the experiments of inoculating cancer masses have been negative, although the literature is replete with successful transplantation cases; however, they have not been borne out by the test of time. Another question which arises is this: Are these cells really epithelial cells? May there not be a cell resembling an epithelial cell which as yet we have not been able to differentiate from a normal epithelial cell? It seems impossible to believe that the function of the normal epithelial cell, which is mainly to secrete, should be so modified as to produce a virulent toxin which has such destructive action on the other cellular elements of the body. The theory regarding the matrix or connective tissue having a restraining or inhibitory influence on the epithelial proliferation is hardly tenable because investigation has shown that the matrix only reacts after the active epithelial process has begun.

Regarding the parasitic nature of cancer nothing has been proved. Schaefer, of Germany, claims to have discovered the germ. Plimmer maintains that certain inclusions in carcinoma cells are protozoa. This assertion has not been substantiated, as the protozoa bodies have been found to be the products of metamorphoses or deposits of pigment from the staining fluids. The blastomycetic formation of cancer, as advanced by the Italian school, has also found few adherents. Meyer, of Munich, suggests that the consumption of ova bearing or embryonic foods may be responsible for the origin of malignant growths. Recently Dr. Beard, of Edinburgh, published a theory of cancer formation being due to an embryonal change of a cell which he calls trophoblast. He claims that the trypsin and amylopsin ferment will cure same, but we have no cases to prove this theory; therefore, we must hold our opinion in abeyance for the present.

My theory is this: That the cancer elements are found in utero; that is, there is an abnormal development of the embryonal cells, which group is the starting point of a carcinomatous growth. Intermingled with the healthy epithelial cells are these cancer units, and whenever the conditions for hemming them in or retarding their growth is overcome by exciting causes, such as improper living and eating, mental worry or grief, senility, etc., they multiply very rapidly, destroying and penetrating into the surrounding tissue, giving off a toxin which in time infects the entire system. Therefore, our endeavor should be to demonstrate a cancer specific reaction in the human body by means of a serum precipitant establishing its identity, irrespective of a microscopic examination.

In pursuance of this theory, in the spring of 1904 I decided that possibly the inoculation of a serum taken from the lower animals suffering from a similar malignant condition, which treatment had not then been tried, might be successfully used in the human subject with the idea of arresting the disease and eventually effecting a permanent cure. I believed that the serum contained enough antibodies to neutralize the toxin circulating in the system. I found great difficulty in the course of my studies because I stood practically alone in a new field, and, therefore, received no benefit from the work of others. During my stay abroad I consulted with some of the best investigators who, with the exception of Dr. Greenebaum, of the University of Liverpool (who was kind enough to give me the data of his work along similar lines), could throw no light on the subject. I experienced much difficulty, also, in procuring this serum on account of the rarity of the disease in the lower animals. Through advertising and visiting veterinary surgeons I succeeded in observing a few cases in the equine and canine. My thanks are due

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Dr. Ellis, of the *American Veterinary Review,* and others for their kindness in assisting me to obtain the desired material.

Bier has injected defibrinated blood in cancer, using 4 to 20 c.c. weekly. Some improvement was noted. The injections were followed by marked reactions; they were given into the vein of the arm.

Doyen isolated a micro-organism, *Micrococcus neoformans,* and prepared an antagonistic serum by the injection of its toxins into animals. This he used to treat cancer cases, and of 126 cases observed in 58 there was no improvement; 21 patients were cured. The micro-organism has not been demonstrated and the serum is not used.

Schmidt, of Cologne, prepared a serum by inoculating horses and sheep with cultures of a parasite derived from malignant growths. He claims good results. Trial of this method was made in the Middlesex Hospital, London, and nine patients were treated with no benefit.

Dubois, in 1897, injected macerated tumors into animals and used the serum as a remedy. He reported that fibrosis was induced in new growths. Von Leyden did the same work on rabbits; used the serum in human subjects, after having tried it on dogs, with some good results. He believes that the action of the serum is to attack the weak tumor cells without injury to the normal epithelial cells.

Adamkiewiz claims good results from cancroin, which consists of neurin, citric and carbolic acids, but this work was not carried out scientifically, and the diagnoses were not substantiated by the microscope. I have also contributed some work along these lines by inoculating apes with a solution of fresh carcinoma and sarcoma juice, but never succeeded in getting any results.

The serum which I am using at present is obtained directly from the lower animals suffering from malignant growths, principally the horse; the diagnosis being substantiated microscopically. The internal jugular vein was laid bare and a canula plunged therein under cocain anesthesia. About 1,500 c.c. of blood were withdrawn, which was allowed to stand in a vessel until the corpuscular elements settled to the bottom. The serum was then siphoned off under aseptic precautions, and ½ per cent. of carbolic acid added as a preservative to one portion, while another portion was heated for three successive days, for one hour, at a temperature of 55 C. The serum was then transferred to small bottles holding 30 c.c. Of course all this was done under rigid asepsis. The serum was then spread on colonies in order to test for bacilli, also injected into guinea-pigs, the result in both cases being negative. It was kept in an ice-box and after the lapse of one year it was again tested in the same manner and found to be sterile.

Shortly after injecting the serum the face of the patient becomes flushed; there is an increase of the blood pressure, as the serum seems to have a marked effect on the spinal centers, producing pain in the back, which radiates down the legs. In some cases a chill occurs within the first few hours. After four to six hours there is an elevation of the temperature, but not exceeding 3 degrees in any case observed. At times there is great restlessness for the first twenty-four hours.

Owing to its action on the vasomotor system, the serum has a remarkable effect in relieving the pain of deep seated and visceral cancers, after the primary intense pain has passed.

REPORT OF CASES.

CASE 1.—Mrs. L., 63 years of age. Adeno-carcinoma of the neck. The patient has a large mass on the right side of the neck about the size of an egg, also one on the left side, somewhat smaller. Both these masses had been under observation for about three months; the masses having increased in size and becoming hard. There was no doubt of the malignant character, as the primary affection was in the glandular tissue. The patient was seen with Dr. Richardson, who permitted the use of the serum.

The injection contained 0.5 c.c. The patient, who had suffered great pain from the rapid growth and pressure of the tumors on the adjacent structures, was relieved somewhat during the first twenty-four hours. This injection was repeated every third day, in augmented doses, until 2 c.c. were given at one time. The tumors gradually shrunk during the course of treatment, and the temperature varied from 99.5 to 101 as a result of the serum reaction. This treatment was well borne by the patient, and she continued to be free from pain and in good health, but owing to her nervousness and not understanding the nature and severity of her disease, she refused, after some months, further injections, claiming to be cured.

CASE 2.—Mrs. M. had been suffering for six months with carcinoma of the sigmoid involving the pelvic fascia. There was intense pain, emaciation and vomiting. As her suffering was very great and exposure to the *x*-ray, injections of morphin and other forms of treatment had given no relief, her physician, Dr. Feldman, suggested that I should use the serum.

On examination I found a carcinomatous growth at the juncture of the sigmoid with the colon, enlarged ilio-lumbar glands on the right side, and infiltration of the surrounding connective tissue on the left side. As a radical operation was out of the question, we concluded to try the serum. She showed a decided reaction, evinced by increasing of the pulse rate, elevation of the temperature and some restlessness for the first twenty-four hours after the injection. This was followed by a marked amelioration of all the symptoms. The treatment was continued for about four weeks, with pronounced benefit to the patient.

After having produced these results we decided to discontinue the injections until the return of pain, which occurred in several weeks, when we again resorted to the serum, its use producing beneficial results until the death of the patient.

CASE 3.—Mrs. W. had a breast carcinoma. She presented herself in January, 1905, with a carcinomatous ulceration of the manubrium sterni; both axillary regions contained glands which were hard, nodulated and extremely painful to the touch. The supraclavicular glands on the left side and the superficial cervical region were infiltrated. The diagnosis was confirmed by microscopic examination.

The patient had been treated by *x*-ray by one of the best roentgenologists for several months, but the pain and tumefaction increased. We concluded to try the serum treatment; accordingly she was injected with 2½ c.c. of serum at 6 p. m., Jan. 23 and 26. After the second dose the face became very flushed. The third injection, 5 c.c., was given on Jan. 30, after which she felt chilly and did not sleep well. On Feb. 1 she felt much better and slept all night. Feb. 3, 6 c.c. were injected. Temperature arose to 99.8 F. and she complained of itching of the skin around the growths. Feb. 6, 6 p. m., 10 c.c.; Feb. 7, 8 a. m., temperature rose to 100.5 F.; Feb. 9, 15 c.c.; Feb. 14 pulse, which had been 96 to 100, dropped to 80, and temperature to normal. The patient was entirely free from pain and no itching.

At the time these injections were given there was a marked diminution of the swelling, tenderness and infiltration in both axillæ. A slough separated from the manubrial ulceration, and this primary focus showed healthy, reddish, flat, non-infiltrating granulating tissue. This status persisted for some time, to such an extent that the patient and friends refused treatment until the return of severe pain. On request I again used the serum, but owing to a lack of cooperation on the part of the patient I did not continue the treatment, much to my regret. The noteworthy points of this case were the effect on the vaso-motor system, evinced by the flushing;

shrinkage of the axillary tumefactions; relief from pain; increased appetite and sleep. While we could not expect to cure such an extensive and inoperable carcinomatous involvement, still I am certain that the serum had a very beneficial effect, and it being one of my first cases stimulated me to further efforts in this line of treatment.

CASE 4.—Sam K.; age, 59. Came under my observation Dec. 7, 1907. He had carcinoma of the tongue; right side, glandular involvement; great difficulty in swallowing, chewing and articulation. Used alcohol and tobacco excessively. He noticed the growth three or four months before seeing me.

First injection of m. xxx., Dec. 7, no reaction. Second injection, 1 c.c., reaction, pulse 108, temperature 101 F. on Dec. 9. On Dec. 12 he reports he is feeling better; glands not as prominent. Dec. 14, 2 c.c. Dec. 18, says he feels weak, but carcinomatous areas have a clean appearance and he can swallow much better. He is receiving injections biweekly, but his disease, which appeared to be arrested for some time, seems to be progressing slowly.

CASE 5.—Mrs. B. came under observation January 30 for melanosarcoma, which was examined by Dr. Jeffries. Injected with serum of the same disease; 1 c.c. of the serum gave a marked reaction. The patient had a severe chill, temperature 103, pulse 120. The next dose was given six days later, but the pulse did not rise over 90; temperature 100 F. She has an injection occasionally, but feels well, therefore does not appreciate the necessity for further treatment. The growth, which was on the cheek, was excised and I have advised her to continue the injections.

CASE 6.—I. A. Recurrent pyloric carcinoma sent to me by Dr. Kaplan of Brooklyn. He had been operated on by Dr. Abbe eight months before. In April, 1905, he was taking 10 gr. of morphin daily and weighed only 98 pounds. He was put on large doses, 3 c.c. to 8 c.c. at once. He continued treatment for one year and then appeared to be cured. Refuses further treatment; is working as a tailor and now weighs 152 pounds.

While the cases treated with serum have not been numerous, still the number has been sufficient to judge the benefits of this method of treatment in certain inoperable cases. Most of these cases are treated in the following manner: At times a palliative operation is done to check hemorrhage or to eliminate the odor, but most frequently the patient is given morphin, which procedure is held aloof from by the attending physician as long as possible, as he realizes that he must constantly increase the dosage, always with the fear that he has started this means of relief too soon, and that a time may come when it will not produce the desired result; therefore such a remedy as the serum should have a well defined position in the therapeutics of carcinoma because it supplants the use of morphin in relieving pain without interfering with the other functions of the body until the disease has run its course.

My work is in its infancy, and, although surrounded by darkness, I feel that some day we shall find the exact cause of carcinoma and then we shall be able to formulate a correct therapy based on the true causal factors. The hearty cooperation of my colleagues, which is so necessary to achieve the desired results, is requested.

CONCLUSIONS.

1. Visceral carcinoma is incurable and fatal in nearly all cases.
2. Superficial or surface carcinoma is curable and amenable to treatment if attended to early.
3. Carcinoma is hereditary, the tendency to its formation being transmitted to successive generations, and it becomes evident whenever the natural restraining influences are removed.
4. Carcinoma is on the increase, the death rate being over seven thousand in New York state in 1907 (Gaylord).
5. The serum treatment should be used after every operative case to immunize the system and prevent recurrence. It raises the opsonic index and causes a leucocytosis.
6. The serum treatment should be used in inoperable cases, because it relieves the pain and ameliorates the symptoms without interfering with the natural functions of the body.

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ABSTRACT OF DISCUSSION.

DR. T. J. WATKINS, Chicago: Those of us who have been operating on carcinoma must admit that we are usually disappointed in the results. When I read papers reporting cures of from 50 to 75 per cent. of cases of carcinoma I am astounded. I am always surprised when a patient with carcinoma on whom I have operated does not have a recurrence, and I often question the diagnosis when there is no recurrence. Dr. Strauss' results are such as to give us encouragement in the treatment of these cases by serum. The disease so soon becomes a general one (if it is local in the beginning) that operative treatment is generally not sufficient. We find, for instance, in some of the very early cases of carcinoma of the cervix that the pelvic glands are involved, and the removal of the pelvic glands does not seem to give the results hoped for when the operation was first brought forward by Ries, Rumpf, Clark and others. Extensive operations in the pelvis for carcinoma have apparently not given the good result that extensive operations have given in case of carcinoma of the breast.

Dr. Strauss' results justify continued work along that line of investigation, and they should also induce many more of us to take it up.

DR. I. F. HARTER, Stronghurst, Ill.: I understand that Dr. Strauss assumes that some cases were produced by grief. Was the carcinoma confined to any one organ or any particular location or did such a cause influence the location of the carcinoma?

DR. S. STRAUSS, New York: I hope no one received from my paper the impression that I cured carcinoma with this serum. I have just been making a study of the disease. One patient has been cured under this treatment, but it might be just a coincidence, and I only note that this serum has a beneficial effect in a great many cases. I did find the history of grief in many cases of intestinal and stomach carcinoma. It is not, however, a scientific observation.

SOME THERAPEUTIC OBSERVATIONS.*

ONSLOW REAGAN, M.D.
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We are to-day balanced between polypharmacy and multitherapy on the one hand and therapeutic nihilism on the other hand. The intricate problem before us is to extricate ourselves from this dilemma.

Analysis of the three fundamental scientific principles on which the practice of therapeutics is based, namely, the securing of elimination, the maintenance of the balance of equilibrium, and the sustaining of vitality, shows that no specific therapy *per se* can cover all three of those principles.

Therapeutic agents are only means by which we may be able to obtain definite physiologic results. The multipharmacy of to-day is the offspring of the spirit of commercialism incarnated in the person of the "new quack." The "old quack," who formerly occupied a position in the medical profession, was an objectionable personage, yet he filled in vacant spaces and was considered a necessary evil. But the profession, on becoming better organized, saw proper to eliminate the "old quack" from practice.

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* Read before the Chattahoochee Valley Medical and Surgical Association, at Auburn, Ala

In process of time, however, the "old quack" came back, bringing with him seven other "new quacks," more quackish than he. Finding the profession garnished and clean, they took up their abode therein.

These "new quacks" employ in their service men who are among the most expert salesmen in the world (we have all heard the medicine-man talk), who make channels to the ends of the earth for rivers of sugar and water, deliciously flavored, beautifully colored, pleasing both to the eye and taste, a panacea for all real or imaginary ills, and who direct into their coffers a return-flow consisting of streams of shekels. Where do we find the wares of the "new quack"? Anywhere; in the lone cottage by the wayside, in the mansion, in every town and hamlet, from the rivers to the ends of the earth. Where do we find the "new quack"? We find him also anywhere; in Millionaire's Row, and even in the professor's chair.

The expert salesman of the "new quack" comes along and with his eel-skin tongue beguiles the druggist, and loads his shelves from floor to ceiling with high-grade ethical pharmaceutical compounds. The doctor, too, ever in search of the philosopher's stone, sees the glowing advertisements in the pages of every medical periodical, and is presented with scores of beautiful specimens of the aforesaid high-grade ethical pharmaceutical compound. He sends in his prescriptions calling for these compounds and continues to do so until he finds that he has merely been acting as an unpaid agent, dispensing and advertising the wares of the "new quack" in every nook and corner. Now, what shall we do with the "new quack"?

From personal experience I suggest that a physician can place his favorite prescriptions, under a simple suggestive title, in the hands of his druggist, who will keep in stock C.P. drugs, freshly compounded. This measure will minimize the time of dispensing and prescribing, will tend to give uniformly good results; and these good results, in turn, will increase the physician's reputation for professional skill. This plan, moreover, will give the local druggist the advantage of local pharmaceutical trade, and will relieve him of the humiliation of being a mere dealer across the counter.

By following this plan, physicians can eliminate nine-tenths of the superfluous mixtures from the market, elevate the standard and dignity of the medical profession by confining the practice of medicine within the boundaries of the medical profession, and thereby save to the profession and to the laity millions of dollars every year.

The Food and Drugs Act caused a stampede in the ranks of the "new quack." The efforts of the Council on Pharmacy and Chemistry of the American Medical Association are placing some of the objectionable proprietary compounds under the ban. The cooperation of the physician with the Council on Pharmacy and Chemistry will place pharmacy on a sound and reliable basis; and this it is the duty of the profession to do. Individual happiness and prosperity, the prosperity and happiness of families, the progress and prosperity of the nation—all are to a great degree dependent on the progress and success of medical science.

MILK AND ITS RELATION TO INFECTIOUS DISEASES.

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That milk may play a part in the spread of certain diseases has, for many years, been appreciated. From our present knowledge the more important of these are typhoid fever, scarlet fever, diphtheria, and possibly tuberculosis.

TYPHOID FEVER.

Undoubtedly the relative importance of the various agencies by which typhoid fever is distributed varies with the locality and conditions. The various factors, water, milk, flies and contact, have different values in the city and in the town. They will naturally also vary in importance with the season, the latitude, and the local customs. Improved water supplies have eliminated water as a factor in many places, while regulation of the production, handling and sale of milk is doing the same for it in some communities. It would seem that water has been so apparent as a frequent carrier of the infection that other agents have not been looked for, or at least not commonly found, until improved water supplies had demonstrated that there were other factors at work. The experience in Massachusetts has been given recently by Harrington,[1] as follows:

> In the public mind outbreaks and epidemics of this disease (typhoid) are commonly associated with polluted drinking water, but when water supplies are properly guarded, as in Massachusetts, for example, they are more commonly found to be caused by contaminated food, and especially by that one which is most subject to pollution and which offers the specific organism the most favorable conditions for preserving its virulence and increasing its numbers—namely, milk. During the past two years, of eighteen local outbreaks of typhoid fever in different parts of Massachusetts, investigated under my direction, fourteen were traced to milk.

Jensen[2] also makes the statement: "The principal means by which typhoid fever is distributed in places where there is a safe and hygienic water supply, is through milk."

The *Bacillus typhosus* has been isolated from market milk. Konradi reports finding it in two samples in 1905. In 1890 Vaughan isolated from market milk a bacillus which was in all probability a typhoid organism. Shoemaker[3] reports an outbreak of milk typhoid in Philadelphia in October, 1906. He states: "A culture made from the milk proved the presence of the typhoid bacillus in it." A visit to the dairy revealed that the proprietor and one of his servants were ill with typhoid and that "the son was convalescing from typhoid fever and was filling the milk bottles from a tank by siphonage, starting the flow by sucking with the mouth at one end of the tube. A culture made from this end of the tube revealed many typhoid bacilli."

The ability of the typhoid bacillus to grow and increase in numbers in milk and to retain its viability in market milk, cream, butter and buttermilk for periods ranging from seven to twenty-seven days has been demonstrated by Eyre, Cautley, Broers, Bruck, Pfuhl and Bolley and Field.

I have elsewhere presented the abstracts of 317 typhoid epidemics reported as spread through the agency

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1. New York Med. Jour., 1907, p. 697.
2. Essentials of Milk Hygiene. English Ed., 1907, p. 106.
3. THE JOURNAL A. M. A., May 25, 1907, p. 1748.

of milk[4] (also abstracts of 125 milk scarlet fever epidemics, 51 of diphtheria and 7 of sore throat or pseudodiphtheria). These were collected from various compilations and original reports, and an effort was made to eliminate all outbreaks in which the evidence seemed insufficient. What a small proportion of milk typhoid epidemics this must be of the whole can only be estimated by considering what a small percentage of epidemics are reported in the literature and how little consideration has usually been given to milk in the study of typhoid outbreaks.

Within the last two months, Boston, Mass., and Providence, R. I., have both had outbreaks of typhoid fever which appear to have been due to milk.

One of the important factors in the spread of typhoid fever by milk is undoubtedly the bacillus carrier. Individuals in the early stages of typhoid may be physically well enough to continue at work milking or handling milk; others with very mild attacks may not cease work at all. Both may be discharging typhoid bacilli in the excretions. Possibly more common, and therefore more important, are the chronic carriers, who, being well, have no reason to cease work and therefore continue to be distributers of bacilli over long periods of time. Several epidemics, due to milk infected by these chronic typhoid bacillus carriers, have been reported. Others will undoubtedly be found with increasing frequency as epidemics are studied with this possibility in mind.

Branthwaite reports an outbreak at Brentry Reformatory, an institution for the detention and treatment of habitual inebriates. The reformatory consisted of 16 buildings, scattered over about 98 acres of ground. The institution was practically isolated from other communities and housed usually about 265 persons. It ran its own dairy. From 1899 to 1906 the institution remained free from infectious diseases. The first case of typhoid occurred in September, 1906, and by November, 1907, twenty-eight cases had developed. The patients fell ill at irregular intervals and always in groups of from three to five. The first patient was a woman who had been in the institution several months, and therefore removed from the possibility of outside infection. Careful search was made as to the possible introduction of the disease, but in spite of all precautions others continued to be attacked. A detailed investigation pointed to the milk as the carrier of infection. All milk had been regularly sterilized, and therefore, if it were the cause, it was necessarily due to defective methods or to subsequent contamination. A new sterilizing plant was installed, and all handling of milk after heating was limited to two persons, a man and a woman. But still cases developed, and all evidence continued to point to the milk. It was, therefore, concluded that infectious material reached the milk after sterilization, and it was decided to find whether one of the two persons handling it was a bacillus carrier. The woman milk handler was removed from the dairy and her feces examined. Pure cultures of the typhoid bacillus were isolated from her stools. She was permanently removed from the dairy, and, after a lapse of the usual incubation period of two weeks, no new cases had developed up to the time of the report, three months later.

Dr. A. K. Chalmers, medical officer of health of Glasgow, Scotland, reported an outbreak in Glasgow in December, 1907, and January, 1908. This outbreak is of interest because of the parts played by a bacillus carrier and an acute case of typhoid fever in the production of the epidemic. There were 126 cases of typhoid, in all of which the patients obtained milk from one dairy. Eight of the patients sickened between December 5 and 14. One of these eight cases developed at Parkhouse dairy farm, which supplied milk to the distributing dairy from which all the other patients obtained their milk. Then for four days there were no cases. Following this, between December 19 and January 13, ninety-three cases developed. The result of much careful work in studying the relationship of the milk distribution to the incidence of the disease showed that the Parkhouse farm was the undoubted source of infection, and while the acute case which developed there could, from a standpoint of time and opportunity, have been the direct cause of the ninety-three and more cases which formed a typical milk epidemic, and undoubtedly was the cause, yet there remained to be found the source of infection of the first eight cases, of which this patient was one. The water supply of the farm could not be found at fault, and so an investigation was made of the dairy hands. There was found an elderly woman milker who gave a history of having been previously associated with outbreaks of typhoid fever. She had had the disease sixteen years before. Her stools were examined and the *Bacillus typhosus* isolated. Her blood gave a positive Widal reaction with "the laboratory strain of the *Bacillus typhosus*." The conclusions drawn were that this woman was the source of infection of the first eight cases occurring between December 5 and 14, one of which developed on the same farm in a woman who was ill from December 7 to 24 when her case was diagnosed as typhoid fever, and that this latter case was the source of infection causing the typical milk outbreak between December 19 and January 13.

Kayser, in 1905, reported two small milk outbreaks of typhoid fever traced to chronic bacillus carriers as the source of infection. Dr. Henry Albert, in 1907, reported a similar outbreak in Cedar Falls which seemed to be due to a like cause.

When it is considered that available evidence seems to show that between 2 and 4 per cent. of typhoid convalescents become chronic bacillus carriers, the probability that some of them are employed at dairies in milking cows and handling milk is very great.

SCARLET FEVER.

Milk has been the undoubted carrier of infection in many epidemics of scarlet fever. Reference has been made to 125 outbreaks of this kind, interesting examples of which in this country have been reported at Boston in 1907,[5] Evanston in 1907,[6] Springfield in 1904,[7] Beverly, Salem and Bakers Island in 1901,[8] Plainfield in 1900,[9] Buffalo in 1899,[10] Washington in 1898,[11] Norwalk in 1897[12] and Buffalo in 1893.[13]

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[4] Bulletin No. 41, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington, pp. 21-147.

[5] Reed, C.: Report Boston Health Department, 1906, p. 126; also Monthly Bulletin, State Board of Health, Massachusetts, March, 1907.

[6] Hemenway, H. B.: The Journal A. M. A., April 4, 1908.

[7] Massachusetts State Board of Health Report, 1904, p. 422.

[8] Morse, F. L.: Massachusetts State Board of Health Report, 1901, p. 561.

[9] New Jersey State Board of Health Report, 1900, p. 232.

[10] Wende, E.: The Journal A. M. A., Jan. 20, 1900, pp. 150-151.

[11] Report of Health Officer, District of Columbia, 1899, p. 43.

[12] Smith, H. E.: Connecticut State Board of Health Report, 1897, p. 259.

[13] Wende, E.: The Journal A. M. A., Jan. 20, 1900, pp. 150-151.

In Boston, in January, 1907, there was a pronounced milk scarlet fever epidemic.[5] The outbreak was explosive; 227 cases occurred in four days. Of these, 195 were in families taking milk from dairyman "A," while the other 32 took milk from 17 different dealers. The water supply was above suspicion. The dairyman also sold milk in Cambridge, Somerville and Everett, and in the four places there were reported during the first 20 days of January 717 cases of scarlet fever, of which 367 cases were in Boston, and of these 80 per cent. were supplied with milk from dairy "A." Of the 152 cases in Cambridge, 85 per cent. were in families supplied by this dairy. Of the 155 cases in Somerville, 86 per cent. used this milk, and of the 43 cases in Everett 83 per cent. used it. Of the 717 cases, 485, or 67 per cent., occurred in the 6 days, January 7-12, inclusive.

An interesting series of cases of scarlet fever is reported by Holden. During a period of three months in 1906 twenty cases of scarlet fever occurred in Melrose, Mass. Of the twenty, nineteen were customers of one milkman. He had not been sterilizing his empty bottles, but when it was found that practically all the cases of scarlet fever were on his route he began to do so, and cases of the disease then ceased to occur. The evidence seemed to indicate that in all probability bottles returned from infected houses were refilled with milk without adequate sterilization, and in this way the disease was spread. Very likely only an occasional bottle contained virulent infectious material, and, therefore, the number of cases thus infected remained small. This emphasizes the difference between an outbreak due to infected bottles and one in which infectious material gains entrance to the milk before bottling. In the former there is usually a series of cases, not many at a time, but extending over a considerable period. Not all houses having scarlet fever cases would be likely to infect the empty bottles. Very probably in families where the domestic arrangements were such that bottles were contaminated this would not happen with every bottle. Then, too, some of the infected bottles would go to households, the individuals of which were immune to the disease; other bottles would go to families using little or no milk in a raw state. The chances are also that households would be exposed to infection for but one day at a time and thus many would escape. In this way, cases would continue to be reported at intervals, but never many simultaneously. But all this is changed when the infection enters the milk before bottling, at the producing farm for example. Under these conditions a relatively large amount of milk is infected and if it goes to a distributing dairy where many gallons are mixed in a tank previous to bottling, then hundreds of families may be exposed to infection on the same day, and as a result an explosive outbreak occurs. If the source of infection continues, the families of an entire milk route may be exposed daily to the disease, whereas in bottle infection the probabilities are that each day only the users of a certain limited number of bottles, possibly but one bottle, are thus exposed. Typhoid and diphtheria bacilli may increase greatly in numbers in milk, and the same may be true of the cause of scarlet fever.

Hemenway[6] reports an explosive outbreak of scarlet fever in January, 1907, at Evanston, Ill. One hundred and fifty-seven cases occurred between January 14 and 21, and of these 153 were in families supplied with milk from dairy "A," which sold only about one-seventh or one-eighth of the milk used in Evanston. Investigation failed to show any public gathering, church or school, which could have been the source of the outbreak. In a large family boarding house, accommodating about seventy persons, the only one using milk from this dairy was a baby, and this baby was the only one to contract scarlet fever in that neighborhood. The dairy proceeded to change its source of milk and the outbreak in Evanston rapidly subsided.

Many other outbreaks might be cited. Those specially interested in the subject will find that the literature contains accounts of many similar epidemics, each of which presents its individual problem.

In many epidemics of this type, cases of scarlet fever have been found at the farms producing the milk. In many persons with mild attacks, or still desquamating from more severe ones, have been found milking the cows or otherwise engaged. In a few, milk bottles were apparently infected in houses containing scarlet fever cases, and, being refilled without proper sterilization, conveyed the disease to others, as at Melrose.

DIPHTHERIA.

Milk not infrequently becomes contaminated with the Klebs-Löffler bacillus and gives rise to outbreaks of diphtheria among persons using it. Such an outbreak was reported in 1877 in England by Jacobs, and since then many others have been traced to a like source. In 1886 a similar epidemic was reported in Melrose, Mass., by Clark.

In 1898 Pitfield reported an outbreak in Philadelphia of fifteen cases among consumers of milk from one dairy. These cases were in houses widely scattered, the children attended different schools, and several adults were attacked. The Klebs-Löffler bacillus was isolated from the throat of a child on the dairy farm, as well as from the patients on the milk route. The cases were all reported in one week. The points characteristic of a milk outbreak in this instance were the explosive onset of the cases and their occurrence in scattered houses, the inmates of which had no social connections, the only thing in common being the milk supply.

Chase reported a small outbreak in Brookline, Mass., in 1899. Two children of a milkman had diphtheria and were sent to the hospital. In Brookline only seven or eight families used milk supplied by this man, and of these four developed diphtheria. Cases were also found in Boston on this man's route. On examination, diphtheria bacilli were found in the throats of some of the milkers on his farm. Of the twelve cases in Brookline, no other possible source of infection was found. All the diagnoses were made bacteriologically.

In Plainfield, N. J., in July, 1899, ten cases of diphtheria were reported within eight days among the customers of a rather small milk route. Other cases were also found on this same route in North Plainfield. On investigation it was found that a child was ill with the disease on the farm producing the milk.

In Montclair, N. J., March, 1901, fifteen cases of diphtheria were reported in five days among the customers of one dairy. Examination of the dairy employés showed Klebs-Löffler bacilli in the throats of three. Proper measures were taken to prevent infection of the milk and the outbreak ceased.

Powers reported that in June, 1903, in Los Angeles, within 10 days, 33 cases of diphtheria developed in 30 out of 110 families using milk from one dairy. Examination of the throats of the dairyman's family resulted in finding diphtheria bacilli in 2. The same author reported a similar outbreak in October of the same year, in which 35 cases occurred within 10 days in 33 families using a common milk supply. Klebs-Löffler bacilli were similarly found in the throats of three of the milkers.

Brown reported that in Auburn, N. Y., of 60 cases of diphtheria developing in June, 1904, 45 individuals used milk from one dairy, while the other 15 took milk from 13 different milkmen. Investigation revealed 2 cases of the disease on the farm producing the suspected milk. The sale of this milk was stopped and the outbreak ceased.

Tuttle reported an explosive outbreak of nineteen cases in Helena, Mont., in 1904, which occurred in one week among the patrons of a dairy. A child on the dairy farm was found to be ill with the disease.

In Rochester, N. Y., August, 1905, Roby reported an outbreak of 10 cases occurring in a period of 11 days on one milk route. The cases were scattered and in 9 families. The schools were not open at the time. No source of contagion could be found until a visit to the milk farm revealed a case of clinical and bacteriologic diphtheria in the person of one of the milkers. Other cases occurred in children on the farm.

In Wellsville, N. Y., May, 1906, Witter reported that four children in a dairyman's family contracted diphtheria. While they were ill the milk was cared for at a distance from the house and the milkers remained away from the sick. After the children were reported well and the house disinfected by the mother, the milk was brought to the house for cooling and bottling. Ten days later diphtheria began to be reported on the milk route, and within two weeks there were forty-six cases in thirty-eight families using this milk, and no case had been reported in any family not a patron of this dairyman. Later secondary cases due to contact developed and the clear-cut picture of a frank milk epidemic became less pronounced.

In Hyde Park, Dorchester and Milton, Mass., April, 1907, an explosive outbreak of 72 cases occurred within one week. Of these, 32 were reported on one day. Of the 72 cases, 69 were in families using milk coming from a dairy farm where the farmer's grandchild had the disease. The milk utensils were washed in the house by the same person who nursed the sick child. The three cases in persons not using this milk were in one house and were clearly secondary to a known case. The distribution of the cases followed the milk route, and the outbreak ceased when the sale of milk was stopped.

Colter reported an outbreak at Clifton, Ohio, October, 1906:

> Beginning Oct. 3, 1906, within a few days thirty-six cases of diphtheria developed in the suburb of Clifton within four squares of each other. The membrane appeared in all cases, first on the tonsils. There are several reasons for believing milk was the carrier of infection. First, each of the thirty-six patients drank the suspected milk. Second, when only one member of the family drank the suspected milk, as happened in several families, only that member contracted diphtheria. Third, in two families who took milk from this dairy, but who sterilized the milk before using it, no diphtheria appeared. Fourth, in the case of a small boy who returned from Europe on the afternoon of October 4, and who, on reaching home, at once ran to the cottage of the coachman and there drank a glass of the suspected milk, diphtheria appeared on the evening of October 6. The following day the coachman, his wife and daughter all had diphtheria, all having drunk the same milk. At this time two cases developed in a boarding house in the heart of the city, several miles distant from the other cases. These two, mother and child, had daily visited the boy's grandmother in Clifton and there drunk milk. This milk came from a small dairy and the boy who delivered it had had a sore throat.

Milk diphtheria outbreaks were also reported in September, 1907, in Warwick and Pawtucket, R. I., by Swarts.

Many other similar outbreaks might be enumerated, but it is believed that the foregoing will give some idea of their prevalence and wide distribution. When the length of time diphtheria bacilli may remain in the throat after an acute attack, and the number of anomalous cases that occur, are taken into consideration in connection with the fact that the organism grows well in milk, the wonder is that such outbreaks are not more frequent.

The Klebs-Löffler bacillus has been isolated from market milk by Bowhill,[14] Eyre,[15] Klein[16] and Dean and Todd.[17]

In 1898, in Senghenydd, an explosive outbreak of thirty-nine cases of diphtheria occurred. All evidence pointed to the milk as the carrier of the infection. Bowhill examined the milk and isolated the Klebs-Löffler bacillus. His findings were verified by Nuttall. Dean and Todd isolated the bacillus from milk which had caused an outbreak of five cases of diphtheria. Klein found it in one out of one hundred samples examined.

When in a city an unusual number of cases of scarlet fever, diphtheria or typhoid fever occurs among the customers of any one dairy, it may be considered a sufficient reason for causing a careful inquiry to be made and a search for some source of milk infection. The mere finding of cases on one milk route is not by any means conclusive that milk is the carrier of the infection, but it is sufficient to cast suspicion and at times undoubtedly also to warrant regulation, even if no source of contamination is found, for it is often exceedingly difficult to find the infective focus.

The health officers of many cities have for some time been charging each case of typhoid fever, scarlet fever and diphtheria to the dairyman supplying the milk to the invaded household. In this way it is apparent when an unusual number occurs on one route, and measures can be taken to ascertain whether the incidence of the disease has an etiologic relationship to the milk. Cases which otherwise would show no relationship to each other are revealed as associated and the milkman makes neighbors of families separated by considerable distance. In the complicated life of cities this gives the health officer a valuable aid in the control of certain of the common infectious diseases.

The following are some points of interest in the study of milk outbreaks:

1. The number of cases of the disease existing in the involved territory during the time covered by the epidemic.
2. The number of houses invaded by the disease.
3. The number of invaded houses supplied in whole or in part, directly or indirectly, with the suspected milk.
4. The number of cases occurring in invaded houses so supplied.
5. The number of houses supplied with the suspected milk.

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14. Veterinary Record, 1899, April 8.
15. Brit. Med. Jour., 1899, ii, p. 586.
16. Jour. Hyg., Cambridge, 1901, i, p. 85.
17. Jour. Hyg., Cambridge, 1902, ii, p. 194.

6. The relative proportion of houses so supplied to those supplied by other dairies.
7. The time covered by the epidemic.
8. The location of the case or cases from which the milk became contaminated.
9. The relation of the original case to the milk.
10. The time relation of the original case to the epidemic.
11. The special incidence of the disease among milk drinkers.
12. The elimination of other common carriers of infection.
13. The effect on the epidemic of closing the dairy or taking such measures as would eliminate the possibility of milk contamination from the suspected focus.
14. The finding of the specific organism in the milk.

TUBERCULOSIS.

The definite relationship of bovine and human tuberculosis constitutes a problem which has not been easy of solution. The work of many investigators would tend to show, however, that man is capable of infection with bovine tubercle bacilli and that a part at least of human tuberculosis is of bovine origin.

TABLE 1.—Tubercle Bacilli in Market Milk.

Author.	Number Samples Examined.	Tub. Bac. F'n'd in.	Per Cent. Showing Tub. Bac.	Place.	Remarks.
(A) St. Friis	28	4	....	Copenhagen.	
(A) St. Friis	33	0	....	Copenhagen.	
(A) Obermüller	40	3	....	Berlin.	
(A) Obermüller	13	8	....	Berlin.	
(A) Petri	64	9	....	Berlin.	
(A) Buege	9	2	....	Halle.	
(A) Massone	33	3	....	Genoa.	
(A) Ott	43	5	....	Schwäbisch-Gmünd.	
(A) Ott	28	3	....	Schwäbisch-Gmünd.	
(A) Fiorentini	54	4	....	Milan.	
(A) Sacharbekoff	71	4	....	St. Petersburg.	
(A) Kudinow	40	1	....	Dorpat.	
(A) Bujwid	60	2	....	Krakau.	
(A) Nonewitsch	22	12	....	Wilna.	
(A) v. Hellens	21	8	....	Helsingfors.	
(A) Girard	30	6	....	Paris.	
(A) Klein	100	7	....	London.	
(B) Schroeder, E. C.	19	1	....		
(B) Ernst, H. C.	33	1(?)	....		
(B) Ascher	17	1	....	Königsberg.	
(B) Kauthack	16 dairies	9	....		
(B) Proskauer, Seligmann and Croner	9	5	55.5	Berlin.	
(B) Anderson	223	15	6.72	Washington.	
(C) Delépine	110	19	17.2	Manchester.	1897-98.
(C) Delépine	344	39	11.3	Manchester.	1900.
(C) Delépine	438	42	9.5	Manchester.	1901.
(C) Delépine	423	36	8.5	Manchester.	1902.
(C) Delépine	436	54	12.3	Manchester.	1903.
(C) Delépine	431	42	9.7	Manchester.	1904.
(C) Delépine	764	61	8.1	Manchester.	1905.
(C) Delépine	704	47	6.6	Manchester.	1906.
(D) Medical Officer of Health, Liverpool	1,119	23	2.	Liverpool.	Samples of town milk, 1896-1902.
	1,124	84	7.4	Liverpool.	Samples of country milk, 1896-1902.
(E) Cappelletti	27	0	0	Padua.	1896.
(E) MacFadyen	77	17	22.		1899.
(E) Beck	56	17	30.3	Berlin.	1900.
(E) Tonzig	38	0	0	Padua.	1901.
Total	7,097	594	8.37		

(A) Jensen, (C. O.): Essentials of Milk Hygiene, English Edition, 1907. p. 75.
(B) Anderson, (J. F.): Bull. 41, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington, pp. 163-192.
(C) Delépine, (S): Medical Chronicle, March, 1908.
(D) Swithinbank and Newman: Bacteriology of Milk, pp. 215-219.
(E) Cornet: Die Tuberkulose, 1907, pp. 122-123.

The British Royal Commission on Tuberculosis, out of 60 human cases examined, found 14 apparently of the bovine type. The German commission found 6 such out of 56 investigated.

If man is capable of infection with bovine bacilli, the question naturally arises as to the effect of the ingestion of milk containing infectious material from tuberculous cows. That calves and hogs fed on such milk become readily tuberculous is well known. In looking for examples of ingestion tuberculosis in man, many have considered that the initial and graver lesion would be found along the alimentary tract, especially in the form of intestinal or glandular tuberculosis. This, it would seem, need not necessarily be so. The tonsils frequently show tuberculous lesions and at times may be a portal of entry for bacilli, producing more prominent lesions elsewhere. Hogs readily develop tonsillar lesions when fed on tuberculous material. From the tonsils the infection may extend through the cervical lymphatics to the mediastinal lymph glands and the lungs.

There is much experimental evidence which would seem to show that tubercle bacilli may pass through the tonsils or the mucous membrane of the intestines without at times leaving a surface lesion to show the point of entry, and that this is especially true for the intestines when the bacilli are suspended in a fatty emulsion, or introduced with fatty food, in which case they may be found in the chyle in a few hours. Various workers have shown that tubercle bacilli injected into the stomach of certain animals through a tube passed down the esophagus or through an incision in the abdominal wall may reach the circulation and the lungs in a short time. Ravenel and Reichel[18] injected tubercle bacilli into the stomachs of guinea-pigs and in twenty-eight out of fifty cases found them in the lungs in less than 24 hours, and in some of the cases in as short a time as four hours.

TUBERCULOSIS AMONG CATTLE.

Little need be said of the prevalence of tuberculosis among cattle. This has been emphasized so often and in so many ways that it is appreciated by all. Exact information on the subject in this country is relatively scarce. Enough is known, however, to give a fair idea of its extent. Russell and Hastings give the percentage of infected cattle found in several states by the injection of tuberculin. The percentage varied from 3.9 in Vermont to 50 in Massachusetts. These figures, of course, are not absolute, inasmuch as in no case were all cattle tested and in many only suspected herds were so treated. From the recorded tests of 20,930 head with tuberculin in Great Britain, 5,441, or 26 per cent., were pronounced tuberculous (Salmon).[19]

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[18] Jour. Med. Research, xviii, No. 1, pp. 1-18.

Veranus A. Moore[20] states that the reports obtained from practicing veterinarians as to the prevalence of tuberculosis among the cattle in New York show that, "of the 8,640 tested, 3,111, or 36 per cent., reacted (to tuberculin). Of the 364 herds tested, 265, or 72.8 per cent., were infected, leaving but 27.2 per cent. of the herds examined free from this disease." On the other hand, official tests made by the State Commissioner of Agriculture (1903-1906) made on supposedly diseased herds "revealed a much smaller percentage of diseased animals and a much larger proportion of uninfected herds than was found by the private tests. Of the 3,088 animals tested, 673, or 21.79 per cent., reacted, and of the 262 herds tested, but 121, or 46.18 per cent., were diseased, leaving 53.82 per cent. uninfected." The combined private and official tests gave information of 626 herds, including 11,728 animals, and showed that 61.7 per cent. of the herds and 32.26 per cent. of the cattle reacted to the tuberculin test. The cattle of New York are possibly neither better nor worse than those in many other states.

TABLE 2.—TUBERCLE BACILLI IN MARKET BUTTER.

Author.	Year.	Place.	Butter Samples Examined.	Tubercle Bacilli Found in.	Per Cent. Containing Tub. Bac.
(A) Brusaferro ...	1890	Turin.	9	1	11.1
(A) Roth	1894	Zürich.	20	1	5.
(A) Obermüller ...	1895	Berlin.	14	14	100.
(A) Schuchardt ...	1896	Marburg.	42	1 (?)	2.4
(A) Groning	1897	Hamburg.	17	8	47.
(A) Petri	1897	Berlin.	102	33	32.3
(A) Rabinowitsch .	1897	Berlin.	30	0	0
(A) Rabinowitsch .	....	Philadelphia.	50	0	0
(A) Hormann and Morgenroth..	1898	Berlin.	10	3	30
(A) Rabinowitsch .	1899	Berlin.	15	2	13.3
(A) Ascher	1899	Königsberg.	27	2	7.4
(A) Jäger	1899	Königsberg.	3	1	33.3
(A) Coggi	1899	Mailand.	94	2	2.12
(A) Korn	1899	Freiburg.	17	4	23.5
(A) Weissenfeld ...	1899	Bonn.	32	3	9.36
(A) Obermüller ...	1900	Berlin.	10	7	70.
(A) Bonhoff	1900	Marburg.	28	0	0
(A) Herbert	1900	Württemberg.	100	0	0
(A) Herbert	1900	Berlin.	20	0	0
(A) Herbert	1900	München.	5	0	0
(A) Markl	1901	Wien.	43	0	0
(A) Herr u. Beninde	1901	Breslau.	45	7	15.5
(A) Gehrke-Löffler	1902	Greifswald.	8	7	88.
(A) Gehrke-Löffler	....	Greifswald.	17	1	6.
(A) Aujeszky	1902	Budapest.	17	3	17.6
(B) Hellsträu	....	....	12	1	8.
Total	....	....	787	101	12.8

(A) Cornet: Die Tuberkulose, 1907, pp. 122-123.
(B) Swithinbank and Newman: Bacteriology of Milk, p. 221.

It is fair to assume that in many sections of the country the percentage of tuberculous cattle will average between 15 and 40.

It has been held by many that milk from tuberculous cows is not dangerous and does not contain tubercle bacilli, unless the udder is the seat of tuberculous lesions, and this hypothesis has been the basis on which many have worked. But it has been well demonstrated that this is not a safe basis for action. Schroeder and Cotton have conducted experiments which seem to show that not only do cows with udder lesions secrete tubercle bacilli in milk, but those having no demonstrable lesions, but reacting to tuberculin, may secrete them, and that those with marked lesions in other parts of the body do so frequently. But the question of the secretion of tubercle bacilli in milk is not the only one to be considered, for the same authors have shown that, although milk may be secreted free from bacilli, it may be infected by the feces which contain the organisms because of intestinal lesions or swallowed sputum. The vaginal discharge also at times contains tubercle bacilli. In view of the above, the question as to whether or not tubercle bacilli are secreted in the milk of tuberculous cows without udder lesions is immaterial.

TUBERCLE BACILLI IN MARKET MILK.

With a large percentage of dairy cattle tuberculous we may expect to find tubercle bacilli in market milk and milk products. This has been done frequently, as will be seen from the accompanying tables.

Other diseases in the epidemiology of which milk plays an important part are dysentery, epidemic diarrhea, cholera, malta fever and milk sickness. The last-named disease has been an unsolved problem until the recent work of Jordan and Harris.[21]

THE RESPONSIBILITIES OF MUNICIPALITIES IN THE OHIO VALLEY FOR EPIDEMICS OF TYPHOID FEVER.*

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When a country, or any part thereof, becomes, so to speak, a hotbed of disease, which interferes with the normal conditions of commercial activity and human progress, is it not time for a live discussion of the problem in an assembly of the people?

When the death rate from any one epidemic exceeds 10 for 100,000 population, immediate action is necessary; but in the wild pursuit of wealth, health seems to be a factor of minor importance.

The assaults that epidemic diseases have made on the sanitary breastworks of the Ohio valley *municipalities* in the last fifty years have met with little or no resistance. These diseases have resulted in death and disaster. Is it not the duty of the people at large, as well as that of the sanitarian, to see that this miscarriage of civil rights is remedied?

An important part of the sanitarian's knowledge is that which relates to the history of epidemic diseases which at various periods have devastated areas of an inhabited country.

In this paper the history of typhoid epidemics in the Ohio Valley will be briefly traced, in the light of a knowledge of the habits and causes and principles and methods of prevention.

From all that can be learned from older practitioners and from the literature of the times, typhoid has existed in the Ohio Valley since the early settlements in this region. In fact, the disease was not known as typhoid at that early date, but was called typhus, malaria, cholera, enteritis and other names.

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[19] U. S. Dept. of Agriculture, Bureau of Animal Industry, Bulletin 38, 1906.

[20] Bovine Tuberculosis in New York State, 1907.

[21] THE JOURNAL A. M. A., May 23, 1908, p. 1665.

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

James Lind of London, England, a traveler in this country in the early part of the last century, described a disease prevalent in the Ohio and Mississippi valleys, which we know now to have been typhoid fever. Robert Dunglison, in 1844, wrote of typhoid as present in the Ohio Valley. It is strange, and altogether unfortunate that we do not possess accurate accounts of epidemics which occurred in the early settlements. We do know, however, that whole colonies were nearly depleted by certain epidemics; but the information that can be depended on with any degree of accuracy does not antedate 1850.

On account of the assumed sanitary conditions of the municipalities in the Ohio Valley, I will recite facts as they have existed, which will give an insight to the terrible situation prevailing during the last fifty years.

Typhoid is usually transmitted by the water and milk supply, though solid forms of food play an important rôle in the conveyance of this disease.

In the discussion of the water supply I shall begin at the parting of the ways. Pittsburg receives its water supply from two rivers, the Allegheny and the Monongahela. It is estimated that 150,000 people receive their supply from the Monongahela river, which, according to the city bacteriologist, is free from bacteria one-tenth of the time, owing to free sulphuric acid. This water is purified (?) by mechanical filtration. Some 350,000 people receive water from the Allegheny river. One intake of this river is located at Montrose, ten miles above the city, but the main supply, at present, is from the intake at the Brilliant pumping station, which is situated within the city limits, and exposed to sewage and mill refuse.

Dr. James F. Edwards, superintendent of the bureau of health, Pittsburg, on the occasion of the pumping of the first filtered water from the new filtration plant, Dec. 21, 1907, made a recapitulation of what he calls "Pittsburg's thirty-year epidemic of typhoid": Since 1878, 50,000 people have been stricken with typhoid in Pittsburg, and 7,615 died. In 1906 there were 5,729 cases and 608 deaths. His report further shows that one person died out of every ten who were stricken.

The above statement is certainly appalling, but the half has just been told. The towns in the immediate vicinity of Pittsburg make up a population equal to, or greater than, that of Pittsburg proper, and it is from these towns that Pittsburg draws a great portion of her office men and women and laborers in general. From the infected sources in Pittsburg they contract typhoid. These people are taken ill, and remain at their homes until they recover or die, as the case may be. Thus, conservatively speaking, the death rate from typhoid for which Pittsburg is immediately responsible, is double that mentioned by Dr. Edwards.

Dr. Matson, bacteriologist to the bureau of health, Pittsburg, stated to me that for the years 1902, 1905, and 1907 the death rate for 100,000 population was 140, 107 and 134, respectively. He stated, further, that the death rate had reached as high as 150 in other years. This figure is the highest of any city in the world for typhoid.

Should we not consider the fact that Pittsburg is also the source of the typhoid for surrounding towns, and that the rate should be placed much above 200?

As a result of an investigation by the Pittsburg authorities, it was figured that the cost of typhoid to Pittsburg for the year ended June, 1907, was $721,436.

In 1907 there were 5,729 cases and 608 deaths. Taking Biggs' estimate on the value of human life and the expenses incidental to serious illnesses, the loss to Pittsburg was $2,057,800. The loss since 1878, for 50,200 cases and 7,615 deaths would be $21,462,800.

The city of Pittsburg has expended $7,500,000 on a filtration plant up to the present time, but before it is completed this plant will scarcely supply half the demand.

According to E. E. Lanpher, assistant engineer to the bureau of water, $12,000,000 must be spent in the next ten years to double the plant's capacity.

Mayor Guthrie says in an interview:

"The eyes of the whole country are on Pittsburg. We have the finest filtration plant in the world, and the results which are obtained here in wiping out the typhoid scourge will exercise great influence on other cities." He also remarked that the fourteenth ward commonly had more typhoid in it alone than the whole of London.

The coal fields along the Allegheny river are practically undeveloped. Large industrial concerns are being built along its banks. We can thus realize the absurdity of filtration plants with water derived from such a source. Artesian or drilled wells, if sufficient in number, could furnish pure water, or water could be obtained from mountain streams, or even lakes, and this method could not but result in a great saving of lives and dollars to this municipality.

CONDITIONS IN VARIOUS MUNICIPALITIES.

In order to be able to furnish exact data on typhoid in the Ohio Valley, I addressed a circular letter to the boards of health of twenty municipalities.

From Dr. W. E. Kerr, Steubenville, Ohio, I received the following:

> "We get our water from the Ohio river, unfiltered—a blot to our fair city. Many of the better class of people drink spring water, which is carted from house to house. It is noticeable that habitual drinkers of this spring water do not get typhoid. We have no health report for 1907 or any other year, but hope to get one started soon. We are not required to report our typhoid cases to the board of health. Each physician has from one to twenty cases at all times. Typhoid fever is endemic in Steubenville, seldom epidemic. The nearest approach to an epidemic was during the winter of 1906-1907, when several hundred cases occurred. The city is never free from typhoid. The milk supply is not inspected, though probably compares favorably with that of other cities."

Dr. W. H. McLain, Wheeling, W. Va.:

> "Wheeling at present has no water supply other than the Ohio river water in its natural state. A citizen's committee recently spent about $1,800 in putting down some test wells just above the city, had water examined, and made recommendations to the council in a public meeting. Public interest in the matter is great, and I think ultimately a number of wells will be in use, with the river bed itself as a filter. We have had typhoid fever here as far back as there are any records in the office."

In the report of the department of health of the city of Wheeling for 1907 I find 39 deaths from typhoid for the 40,000 population, a decrease of 13 as compared to 1906. Typhoid is not a reportable disease in this city, and I am of the opinion that the above figures are rather conservative. The collection of garbage is not controlled by the board of health. Vaults are inspected. Dairy farms and milk are inspected.

Dr. Mark A. Brown, Cincinnati, Ohio, forwarded a weekly report of March 20, 1908, from which I learn that up to April 1, 1907, the people of Cincinnati were for the most part drinking badly polluted water. After that date Cincinnati began to obtain water from less polluted sources, and gradually improved the supply until November, 1907, when filtered water was introduced. Reduced to figures, there were 606 cases of typhoid with 81 deaths from April 1, 1907, to Nov. 1, 1907, as against 1,407 cases with 155 deaths for the corresponding months of the previous year. Comparison of four months' pure water service with the same period of a year previous shows a reduction of 604 cases and a saving of 42 lives. An estimation is given, including 42 lives at $1,500 each, and a saving of expense of 604 cases at $200 each, which, on an average, would total $183,800. The death rate for 1905, 1906 and 1907 was 155, 239 and 157, respectively. The milk supply is also inspected and examined.

As before stated, reports and statements were solicited from other Ohio river cities and towns, but I received no further replies.

I am not surprised, in view of the existing conditions, at the reluctance of the officers of the boards of health to furnish statements. In order to save the municipalities the disgrace of publicity and the officers the humiliation of reports, I will refrain from anything other than general comment.

I have tabulated the death rate for 100,000 of population in a few Ohio Valley cities and towns for the year 1902, as follows:

City.	Population.	Source of Supply.	Rate.
Dayton, Ohio	90,000	Driven wells	25
Covington, Ky.	45,000	Ohio River	35
Indianapolis	170,000	White River	41
		Driven wells and White River	41
Louisville, Ky	210,000	Ohio River	48
Cincinnati	330,000	Ohio River	52
Newport, Ky.	30,000	Ohio River	65
Wheeling, W. Va.	40,000	Ohio River	52
Steubenville, Ohio	17,000	Ohio River	80

CLINICAL VARIETIES OF TYPHOID.

The clinical varieties of typhoid generally considered are:

1. Typhoid, as distinguishing the severe form;
2. Paratyphoid;
3. Abortive; here referred to according to the severity of the type, which varies between the limits of extreme mildness and extreme severity.

The majority of cases are in the first group. The patients in this group show, as a rule, profound intoxication from the onset. It is from this form of the disease that we get a high mortality rate.

The second and third groups are rare as primary affections, but more or less common in second attacks.

PROBLEM OF UNPOLLUTED WATER SUPPLY.

A problem of great magnitude is the supply of unpolluted water for the cities and towns in the Ohio Valley. So long as we have the vast population and the industrial activity in this valley, just so long will we have polluted streams. This, however, does not contraindicate an attempt to improve existing conditions, provided such improvements can be made.

The suggestions I will make apply to towns as well as cities, and are as follows:

1. Purification of sewage, and discharge of only the purified effluent into the streams. This includes also the manufacturing wastes.
2. Disposal of excreta and garbage by cremation.
3. Inspection of privy vaults and cesspools, and their maintenance in a sanitary condition.
4. Inspection and examination of all well, cistern, and other waters not procured from the regular system of supply.
5. Vigilant inspection of water service in order to insure economy in the use of water.
6. Inspection of supply mains to remedy defects and to avoid accumulation of dirty, stagnant water.
7. Daily examination of water from the regular system of supply.
8. The maintenance of pure water supply whether filtered, river, lake, well, spring, or that from other sources.
9. Legislation that will provide for a pure water supply and officials who will see to it that the laws are enforced.
10. Literature published monthly and distributed to the people concerning contagious and infectious diseases; their cause and prevention.
11. Weekly reports showing the exact sanitary status of the municipality.
12. An efficient physician, assisted by a corps of experts, at the helm of each and every board of health.

It may be argued that the river water is the only available source of water supply, but such is not the case. A pure supply may be secured from fresh water streams, springs, lakes, and artesian wells any place in the Ohio Valley at minimum expense. If we consider, for a moment, the source of water supply of Munich, Berlin, Vienna, Stockholm, Paris, London, and Brooklyn, we have a suggestion that may aid us in an endeavor to secure a pure water supply for municipalities in the Ohio Valley.

MILK SUPPLY.

Another, and most important factor, inviting attention is the milk supply. The purity of this essential food element should be provided for by an act of legislation. Examiners should be appointed to inspect dairies, and to examine all milk before it is offered for sale.

All proprietors of dairies and dealers should be held responsible for any violation of law.

The milk in Pittsburg, as in many other Ohio Valley municipalities, is to say the least, polluted. Taking into consideration a dirty dairymaid, the shipping of milk in insufficiently cleansed and non-sterilized cans, and a filthy milk depot, is it to be wondered at that the milk supply is not only inferior but often a menace to health?

CONCLUSION.

What I have said concerning the few cities mentioned, refers, in general, to all municipalities in the Ohio Valley, and indeed to many others. I have no apologies to make in behalf of Ohio Valley municipalities. They are responsible for the conditions as they exist. I regret that we do not have a better report to offer to the world.

I have the highest regard for Drs. Edwards and Matson, of Pittsburg; McLain, of Wheeling; Brown, of

Cincinnati, and others associated with them in their great work. These men have accomplished much under most adverse circumstances. They honor themselves and the cities they represent. May we have more of such men in the Ohio Valley municipalities.

624 Pittsburg Life Building.

CHOLERIFORM DIARRHEA OF COLD WEATHER —"WINTER CHOLERA."[*]

OSCAR C. BREITENBACH, M.D.
President Michigan State Water Commission.
ESCANABA, MICH.

Winter epidemics of bowel disturbances, characterized by an intestinal flux, have become a problem in some of our large cities during the past few months. Simulating, in some respects, in their toxemia and collapse, the symptoms engendered by the vibrio of Koch, these endemic and epidemic bowel disturbances are popularly known as "winter cholera."

It is the purpose of this paper to detail observations on recurrent epidemics of so-called "winter cholera" at Escanaba, Mich., a city of approximately 10,000 inhabitants. Escanaba is situated on Little Bay de Noc, an inlet of Green Bay. The principles evolved from the study of such epidemics will serve to explain the cause of bowel disturbances that have become in some cities a very momentous problem, taxing the ingenuity of sanitarians.

In the Sixth Annual Report of Mortality Statistics, published in 1905 by the Department of Commerce and Labor, Washington, D. C., the editor says that the highest general death rate from diarrhea and enteritis, among the minor cities of the United States in 1905, was that of Escanaba, Mich., with a death rate of 416.9 per 100,000 of population. Only four other smaller cities of the United States, as classified, had death rates exceeding 100 per 100,000 of population, from typhoid fever during the year 1905; Escanaba, in this instance, showing a death rate of 182.8 per 100,000 of population. It is then stated parenthetically that the typhoid mortality in Escanaba for 1905, although high, was much lower than the rate for 1904, which was 351.4 per 100,000 of population. These facts, as they concern a community in which "winter cholera" and "sporadic cholera" have been prevalent for a decade or more, suggest the predominance and scope of intestinal disorders in this community, a survey of which suggests itself as profitable study. Not alone as a means toward establishing the true nature of the hybrid "winter cholera," but also as it furnishes the inhabitants of the Great Lakes States an incentive for an active cooperation in the very opportune work inaugurated in the Lake Michigan Water commission. This body was recently organized, with subcommittees in the Great Lakes States, for the express purpose of studying the question of water pollution as it pertains to Lake Michigan and Great Lake cities.

SYMPTOMATOLOGY OF WINTER CHOLERA.

In the introductory paragraph I attempted, incompletely, to define the term of winter cholera, but in order that I may give a clearer picture of the symptom complex I shall cite in a more specific way what, subjectively and objectively, characterized winter cholera in the epidemics that I shall briefly review. The symptomatology is most varied. I say varied because of the fact that the histories of many cases would conform to the average text-book description of such diseases as acute ileocolitis, or acute catarrhal dysentery, acute gastroenteritis, dysentery, Asiatic cholera, atypical typhoid and typhoid. I hesitate, therefore, to describe the symptoms of winter cholera as manifested in any one individual as being typical of the term, the scope of which will become evident as I proceed. There were present in the epidemic referred to and in epidemics prior to and since then, all gradations from the type of patient with but a very slight indisposition, and never bedridden to the extreme type in which the patient is taken suddenly sick and becomes moribund in from forty-eight to seventy-two hours, the prostration and collapse, indeed offering a very good picture of Asiatic cholera. To facilitate matters, therefore, I shall describe a few types, covering the many phases of this disturbance.

TYPES OF THE DISEASE.

Type 1.—Individual enjoying good health is suddenly taken with severe colicky pains, the bowel passages are increased from two to four a day. The stools are feculent, very offensive, at first semi-solid, finally watery. These attacks are of short duration, seldom extending over a period of more than forty-eight hours, at the end of which time the patient may assume his former well-being. Because of the mildness of this type of disease it seldom comes to the notice of the physician.

Type 2.—Individual enjoying good health is suddenly taken with feeling of malaise, nausea and bilious vomiting. With or without these acute stomach symptoms at varying intervals, sharp colicky pains and a severe diarrhea appear. The stools are feculent, but very thin and offensive, and may number from one to twenty a day. Objective symptoms are practically negative. Temperature is normal, pulse normal or slightly accelerated. The diagnosis of this condition is based on the acute onset, the characteristic gastrointestinal disturbance, and the usual course of the disease. Patient is never really incapacitated for work, resorts to home remedies, or is subjected to routine treatment of castor oil in large doses, followed by astringents and bowel antiseptics administered by his medical adviser, and is well in from twenty-four hours to three days.

Type 3.—This type presents a most unusual array of symptoms. The cases in the history of their onset simulate typhoid yet in their course and mortality differ materially from typhoid. Bowel symptoms vary in intensity, assuming in some few cases a dysenteric character, while in others there is constipation. Temperature in this class of cases varies from 98.6 to 104 F., is continuous but irregular, and therefore, in this respect, entirely at variance with the remittent character of typhoid. The tongue is heavily furred, showing a bright red tip and margins. Delirium in these cases is of frequent occurrence. The Widal and diazo reactions are negative.

TYPHOID MORTALITY RATE.

As these statistics, pertaining to this isolated epidemic of 1903 and 1904 are interesting, so more extended statistics on other gastrointestinal disorders, as they appeared in this community, are not alone interesting, but valuable in establishing the true relationship of winter cholera. Although the first mention of winter cholera, as a cause of death, was made in 1898, the older inhabitants of this city can readily testify to the fact that typhoid and other bowel disturbances for years previous claimed a high mortality in the symptomatology outlined to you. Escanaba was granted registration of deaths in 1897. I regret that there is no possible way of arriving at the actual death rate that these diseases allotted this community previous to that year. Such records, however, as the local registrar is able to furnish since 1898, net the study of bowel disturbances in this municipality much interesting data.

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[*] Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[*] Because of lack of space, the article is here slightly abbreviated. In the parts omitted, Dr. Breitenbach describes the outbreaks of winter cholera in Escanaba, and gives some of the circumstances in connection with the building of the hospital sewer and the new water intake. The complete article appears in the Transactions of the Section and in the author's reprints.

It will be noted in Table 1 that typhoid in a significant rôle has since 1898 been associated with a high death rate. A study of this table will show the presence of typhoid to an extent that, in the light of sanitary achievement elsewhere, strongly reflects, not alone on the civic authorities, but also on those of us, who as medical advisers, faithful to our trust, should ever be the guardians of public health. Typhoid fever, in 1904, as this record shows, was netted the maximum death rate of 367.8 per 100,000 of population, in the year 1898 the minimum of 19 per 100.000 of population. During the past decade, four successive years, have netted the community a death rate of 100 per 100,000 of population.

TABLE 1.

CASES AND DEATH RATE OF TYPHOID IN ESCANABA.

Year.	Estimated Population.	Cases.	Deaths.	Death Rate per 100,000.
1898	10,500	20	3	28
1899	10,500	60	7	66
1900	10,093	140	14	138
1901	10,444	50	5	47
1902	10,795	70	7	64
1903	11,146	40	4	35
1904	11,500	300	40	367
1905	11,500	210	23	227
1906	11,500	120	12	104
1907	11,500	270	28	246

The mortality of bowel disturbances other than typhoid, and which are embraced in the term winter cholera, I have classified in Table 2. It will be noted in the study of this table, that these gastrointestinal disorders maintained a death rate varying from 69 to 426 per 100,000 of population. These data, though suggestive, convey in but a meager way the scope and magnitude of bowel diseases that, from year to year, have been *the curse of this municipality.*

TABLE 2.

DEATHS FROM SO-CALLED WINTER CHOLERA SINCE 1898.

Year.	Estimated Population.	Deaths.	Death Rate per 100,000.
1898	10,500	10	90
1899	10,500	8	76
1900	10,093	25	247
1901	10,444	15	143
1902	10,795	22	203
1903	11,146	18	161
1904	11,500	37	321
1905	11,500	49	426
1906	11,500	28	243
1907	11,500	8	69

With such facts as I have given, the question of etiology becomes an interesting one. It will be noticed that the figures in Tables 1 and 2 placed the death rate in Escanaba of these bowel troubles far in excess of other cities in the United States. (See Table 3.) In any endeavor toward determining the causal factor in similar outbreaks, the one avenue disseminating disease never to be overlooked, is, of course, water. It is an axiomatic truth in sanitary science that typhoid and allied troubles would dwindle into insignificance in any municipality, if pure water and milk could be served to the householder. It is important and essential in such epidemics, therefore, that the positive or negative relationship of water be established, and indeed, in this community, the history of water supply furnishes instructive facts.

ESCANABA'S WATER AND SEWER SYSTEM.

Until 1887, Escanaba's only source of water for domestic purposes was that obtained through driven wells. In 1886, a franchise was granted to a corporation for a supply of water, the source of which should be Little Bay de Noc. In order that I may give a clear picture of such factors as were of importance in these epidemics, it may be well to direct attention to the maps in Figures 1 and 2. These suggest what is essential in the bay bed, its currents and also winds, as these have a bearing on the subject. It will be noticed in Figure 2 that the flow of the main current of water is south, and the winds prevailing are southerly. Sand shoal formations are very characteristic of the bay, and in a material way influence the main current. On account of these formations the main current is confined by very sharp and definite channel banks. Escanaba is built on a sandy peninsula (Fig. 1), known as Sand Point. From the south shore of this peninsula (Fig. 2) a sand shoal extends out into the bay, forming the bay bed for a distance of 1,500 to 3,000 feet. This exists as a plateau, until an abrupt dip occurs, where it serves the purpose of a very sharp and clearly definite channel bank.

TABLE 3.

ANNUAL AVERAGE DEATH RATE FROM TYPHOID PER 100,000 OF POPULATION, 1901 TO 1905.

Pueblo, Colo.	155.7	Cincinnati, Ohio	55.9
Niagara Falls, N. Y.	144.7	Louisville, Ky.	55.4
ESCANABA, MICH.	136.0	Kansas City, Mo.	53.7
Pittsburg, Pa.	129.6	Philadelphia, Pa.	52.1
Steelton, Pa.	119.3	Johnstown, Pa.	50.8
Fresno, Cal.	113.2	Columbus, Ind.	48.8
Allegheny, Pa.	109.6	CLEVELAND, OHIO	49.5
Youngstown, Ohio	102.0	Denver, Colo.	47.2
SAULT STE. MARIE, MICH.	100.5	Indianapolis, Ind.	45.4
Augusta, Me.	93.2	Memphis, Tenn.	44.4
New Castle, Pa.	97.5	New Orleans, La.	40.9
McKeesport, Pa.	92.6	Cortland, N. Y.	40.3
Bangor, Me.	89.7	Minneapolis, Minn.	38.3
Cohoes, N. Y.	89.1	St. Louis, Mo.	37.2
Petersburg, Va.	88.9	Baltimore, Md.	35.8
Lynchburg, Va.	86.3	Toledo, Ohio	35.8
Ithaca, N. Y.	86.1	Philipsburg, N. J.	35.3
Jacksonville, Fla.	84.4	CHICAGO, ILL.	28.5
Watertown, N. Y.	84.1	San Francisco, Cal.	27.0
Leadville, Colo.	83.6	BUFFALO, N. Y.	26.8
Hammond, Ind.	77.8	Brooklyn Borough, N. Y.	21.9
Hudson, N. Y.	77.5	DETROIT, MICH.	20.5
Salt Lake City, Utah	77.7	Bristoltown, Conn.	20.5
Columbia, Pa.	76.6	Providence, R. I.	20.2
Marietta, Ohio	75.3	Scranton, Pa.	20.0
Muscatine, Iowa	75.0	Paterson, N. J.	20.3
Biddeford, Me.	74.6	Richmond Borough, N. Y.	19.3
Mobile, Ala.	73.0	Omaha, Neb.	19.9
Harrisburg, Pa.	72.5	Newark, N. J.	18.8
Columbus, Ohio	71.1	Queens Borough, N. Y.	18.5
South Bethlehem, Pa.	70.9	New York, N. Y.	18.1
Allentown, Pa.	68.9	Fall River, Mass.	18.0
MENOMINEE, MICH.	66.5	Jersey City, N. J.	18.0
ASHTABULA, OHIO	66.5	MILWAUKEE, WIS.	18.0
Vincennes, Ind.	64.5	Bronx Borough, N. Y.	16.7
Jacksonville, Ill.	63.7	Manhattan Borough, N. Y.	16.1
Wichita, Kan.	62.1	Syracuse, N. Y.	16.0
Washington, Ind.	60.7	Worcester, Mass.	15.6
Alexandria, Pa.	60.3	Rochester, N. Y.	13.7
Meadville, Pa.	58.2	St. Paul, Minn.	12.4
Jeffersonville, Ind.	57.4	St. Joseph, Mo.	11.3
Washington, D. C.	56.9		

Great Lake Cities given in CAPITALS.

The water plant was installed in 1886. When completed, the water was obtained through an intake 1,500 feet in length, extending out into the bay on the shoal described. The crib drew water at a depth of twenty feet. In order to insure adequate fire protection, at this time, a short intake was constructed, drawing water, as did the long intake, from off this sand shoal. This short intake was 258 feet from the shore, the crib at a depth of five feet. The pumping station, at its initial services, consisted of the intakes described, a sand bottom settling tank and the pumping mechanism.

With the introduction of faucet water and the increasing density of population, the rural methods in vogue for the disposition of sewage became antedated and were supplanted by a sewer system. This system was put into commission in 1891, and though devised and approved by sanitary experts, we find the main outlets discharging into a stream of water which flows around Sand Point, thence down and out of the bay in a current which flows south, toward the water intake (Figs. 1 and 2). Human intelligence saw fit to have the inhabitants of this city partake of water thus polluted, not realizing that such a procedure implied an inevitable sacrifice of human lives.

Insidiously, bowel disorders, that entailed the loss of life, began to appear. Many of the older inhabitants, in a very forcible and intelligent way, at this time, began to question whether or not the city was getting a wholesome water. Pressure was brought to bear on the corporation supplying water to consider the question of quality of water, since it was looked on as a suspicious factor. It was urged that the intake was too close to the shore, within range of pollution, not alone from the shore, but also from the sewer outlets. This argument appeared reasonable and the Escanaba Water Company seriously considered the extension of 110 feet, so that the intake then measured 1,940 feet, bringing the crib to the channel bank, but not into deep water. By dredging, this intake was made to draw water through a crib at a depth of forty-five feet, still from off the shoal (Fig. 2).

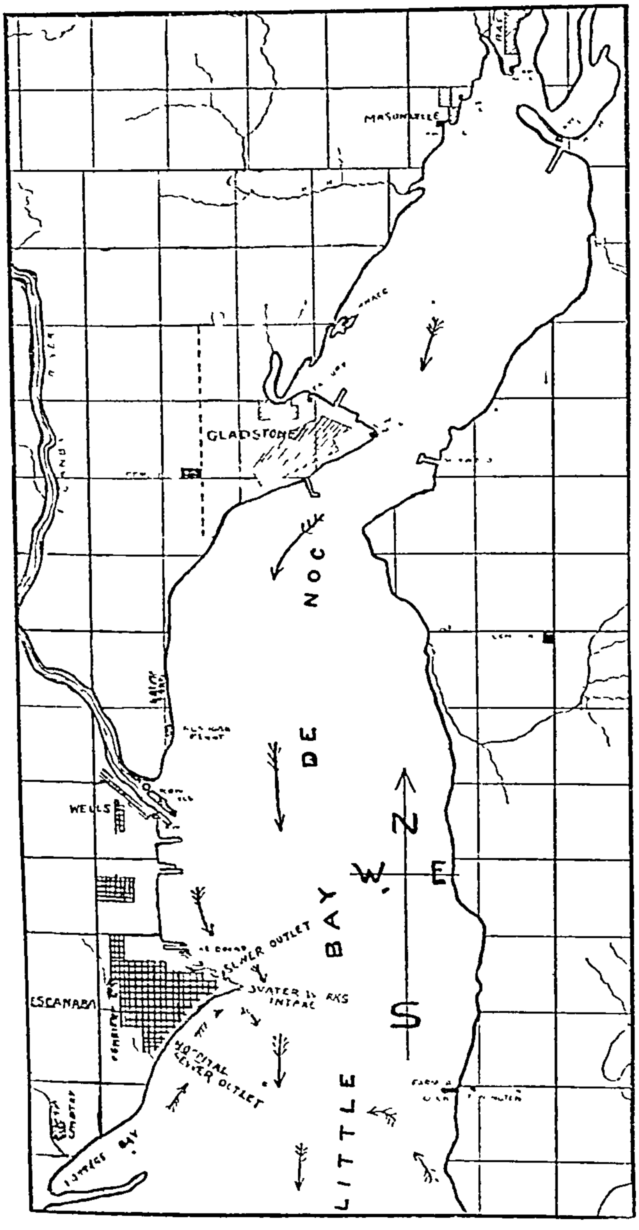

Fig. 1.—Map showing the location of Escanaba, Mich., on Little Bay de Noc, and other towns in the vicinity. The arrows show the general direction of the current and indicate how the sewage from the town of Escanaba is carried down past the water works intake.

RELATIONSHIP OF WINTER CHOLERA TO TYPHOID.

Cause and effect never loomed up more clearly than they do in this municipality. The relationship of winter cholera and typhoid suggests itself as self-evident. In order that the subject may be done justice, however, it may be well to detail observation on the history of winter cholera. This dates back to the year 1881, when first mention was made of it in the transactions of the Michigan State Board of Health. Although no attempt was made at this time to establish the causal factor, it is stated that this form of bowel disturbance was generally prevalent throughout the southern portion of the state and also in one or two state institutions. We next hear of it in Escanaba as a term used synonymously with "sporadic cholera" in 1898. Water pollution at this time was suspected, but no further work towards determining the positive causal factor is recorded. The Indiana State Board of Health, in their report of 1901 and 1902, made mention of an epidemic of winter cholera occurring in Michigan City. Investigation at this time established the relationship of polluted water.

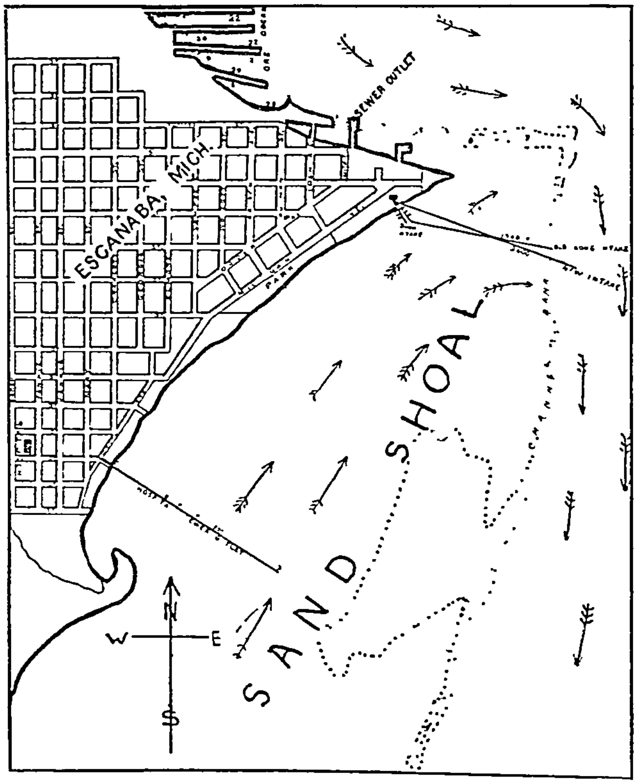

Fig. 2.—Map of part of Escanaba, Mich., showing the relation of the sewer outlet of the town and the sewer outlet of the Delta County Hospital to the intake of Escanaba's water supply. Arrows indicate the direction of current

The prevalence of winter epidemics of gastrointestinal disease in Chicago and Lansing, during the winter months just passed, have been the means of introducing this term into the respective localities. With reference to the Lansing epidemic, *Public Health*, February, 1908, published by the State Department of Health, in part says: "While the be divided as to the probable cause of the epidemics, many believing them to be due to a mixed infection; the contamination of the Townsend street wells must be looked on as a prominent factor in causing the trouble, and is, I believe, so recognized by the profession, many of them believing it to be the only cause." Chicago seems to be in a quandary as to a positive etiology.

Voltaire has so aptly said that "ambiguity has been so necessary a vice in all languages formed by what is called custom and chance." It is true that diarrhea, in epidemic form, appears many times when it is quite impossible to discover adequate cause, yet there can be no possible excuse for much of the mystery in which this term is shrouded, and more especially so in a community where cause for its existence holds forth so openly in the filth diseases with which it is associated. In such epidemics what suggests itself many times as a positive manifestation of a specific pathology, detailed objective study many times orients as such. The term in these instances has no definite pathology, and by laboratory methods is shown to have a most varied significance diagnostically, bacteriologically and pathologically.

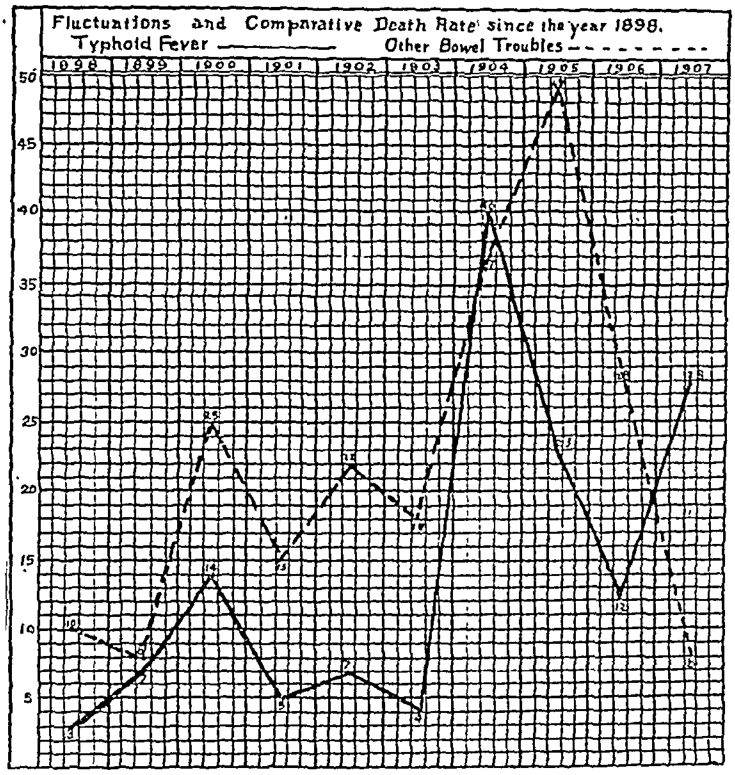

Fig. 3.—Chart showing diagrammatically the interdependence between "winter cholera" ("Other Bowel Troubles" in the chart) and typhoid fever.

The examination of body fluids and stools gave interesting data, in spite of the fact that a great deal of effort toward isolating any organism, aside from those mentioned, resulted negatively. The typhoid bacillus and the colon bacillus, as well as other organisms of the colon group, were the bacteriologic offenders. However meager these results may appear, we have *reason to* associate clearly the activity of other organisms which in the water produce disease and many times are not isolated. That these produce disease in the winter months is not a paradox. The sunlight in the smaller bodies of polluted water is a material factor in self-purification, and in this respect ice as a factor in accentuating germ growth has made itself evident. I believe that more extensive work would perhaps have resolved itself into the finding of the *Bacillus dysenteriæ* or *Bacillus enteritidis sporogenes*, which in themselves or in activity with the putrefactive organisms, such as the proteus and lactic acid group furnish, are normally present in the bowels. Indeed, the bacteriology of winter cholera is the bacteriology of ileocolitis, gastroenteritis and allied conditions.

The unusual symptoms encountered in these epidemics can readily be explained if we recognize the activity of a simple and more especially a mixed infection and its toxemia. The fact that the symptomatology manifested itself more particularly during the winter months undoubtedly aided the advent of the term winter cholera.

I have spoken of this term as being a generic one for many of the common varieties of bowel diseases. It has become popularized and has been so generally adopted by the profession and the public in many communities that the terms dysentery, ileocolitis, gastroenteritis, etc., no longer bear recognition, but are all submerged by the more vague and very inconsistent nomenclature of winter cholera. The term itself gives evidence of the hazardous reasoning that subjective study makes possible in coming face to face with a situation differing from the ordinary. Most absurd diagnoses suggest themselves when the symptoms are somewhat unusual. The zeal that prompted the usage of this term in these epidemics has many times been instrumental in overlooking specific disease, such as typhoid, that study would have unfolded by the demonstration of a secondary and mixed infection. And here I agree with Vaughan that in many epidemics similar to the one described, much that detailed work would establish as typhoid is overlooked simply because the onset of the disease and its acute course perhaps simulates dysentery and true Asiatic cholera. The more cases of typhoid one sees, the more forcibly is the fact impressed that typhoid is not always seen in its classic garb.

PATHOLOGY OF WINTER CHOLERA.

The pathology of winter cholera may be summarized by stating that it is in full accord with the pathology of specific diagnostic conditions that it synonymizes in any given locality, where the profession will persist in using the term. To show the fallacious reasoning and indiscrete usage to which this term has been put, it may be well to mention that the pathology of typhoid has often been revealed postmortem. So, too, the examination of blood and stools has many times proven the presence of typhoid when the picture of collapse, prostration, dysenteric stools and acuteness of disease suggested dysentery.

In the history of disease, such as I have presented, both the conservative and extremist are apt to become obstacles to prophylactic achievement. That individual who does not choose to identify disease, except as it is clothed in the classic symptoms of the text-book, and who is not willing to profit by the results of investigation, because of an inherent skepticism, only too often shields the criminality of insanitation. This, too, as much as his more liberal and idealistic brother, who, in his fervor and zeal, is only too ready to see in a typical manifestation of disease the stepping stone that shall bring him face to face with the grand realization of scientific discovery. Both are instrumental in stimulating false ideas as to the causation of disease which once rooted in the minds of the profession and the pub lic, as is the term winter cholera, may be the direct factor in promoting a repetition of epidemics.

The epidemics of winter cholera, in the localities mentioned, have resulted, therefore, in much frantic and useless argument. The strife thus engendered has hampered the endeavor of investigators, because of the wielding of public sentiment in the wrong direction.' This argumentation centers itself along a few particular lines. There are those in the profession, I regret to say, who deny the relationship of polluted water to choleriform diarrhea, whether this occurs in summer or winter, in the face of positive proof to the contrary. They support this view, and, in order to be contrary, cling with a superhuman tenacity to the idea that water had nothing to do with it.

Winter cholera in localities in which it has been present, is attributed by this, I am glad to say, small faction to cold weather or influenza. During the period when Escanaba was in the throes of repeated epidemics, and during cold weather, Ford River, a village within a radius of six miles, and Gladstone (Fig. 1), a city of 5,000, within a radius of eight miles, as well as other cities of the northern peninsula, were absolutely free of any form of bowel trouble, except as the inhabitants of those cities visiting in Escanaba would be acutely sick or bedridden after twelve or twenty-four hours' sojourn, with one of the numerous forms of bowel disturbances mentioned.

Although much work remains to be done in order to establish clearly the effect of meteorologic conditions as these affect disease, there is one disease that appears the least intimately connected in such conditions, and that is typhoid fever. Figure 3, which embodies Tables 1 and 2 projected diagrammatically, shows the interdependence of winter cholera and typhoid. These diseases were present and this interdependence existed during the years when influenza failed to manifest itself. There can be no question that in epidemics of bowel disturbances, standing in direct relationship to a polluted water, there can be present at the period of endemic and epidemic influenza isolated cases of this disease. Since there is nothing distinctive, however, in the clinical manifestation of influenza, it seems to me that only criminal negligence would allow the setting aside of all choleriform diarrhea of cold weather, as protean manifestations of influenza. The extreme view, prevalent in localities where winter cholera occurred, that all forms of bowel disturbances prevalent at a particular time are influenza, needs to be discouraged for this reason. Isolated cases of influenza did appear during the epidemic which characterized the winter months of 1907 and 1908. To affirm positively the presence of influenza in all cases, it becomes necessary to prove the presence of Pfeiffer's bacillus.

In the high mortality primarily mentioned and in the active water pollution as proven, should we not expect the relationship of cause and effect? In the light of the demonstration of the mortuary tables as shown, is it even necessary to prove water pollution before the duty of grappling with the implied causal factors should incriminate the profession because of their inactivity? To reason otherwise would imply, in the light of prophylactic martyrdom, a *reductio ad absurdum*. And what holds true of Escanaba holds true of other cities in the United States. The study of isolated epidemics of gastrointestinal disorders, from the historic observation of Austin Flint in 1843 to the present, must exact of us the primal recognition that water pollution and bowel epidemics of divers forms and shapes have an intimate relationship.

There are a few additional facts with reference to the conditions in Escanaba that are well worth mentioning. As the relationship of human offal and sewage, as a diluent of water to be used for domestic purposes, is sufficient cause to inaugurate epidemics of typhoid fever and other bowel disturbances, so, also, there are frequently accessory factors, the liability of which as a cause of disease is attributed many times, unjustly, to the community in which these diseases flourish. It is conceivable, for instance, that the typhoid carrier, as well as those arriving in the city during the period of incubation of typhoid, often jeopardize the lives of its inhabitants and render the community through the statistician a gross injustice through the indiscriminate disposition of their excreta, through the channels just mentioned.

DANGER FROM LUMBER CAMPS.

I have contended and still deplore the inadequacy of sanitation and sanitary inspection in the lumber camps of the great north and northwest. Man's inhumanity to man is exemplified in the inhumane, filthy and insanitary method in vogue of housing this artisan of the north, the plebeian lumber jack, only too often by early environment and lack of training a disease breeder. The thoughtless handling of excreta within the confines of the small area of the average camp ground, the soil of which serves the purpose of drainage and the well constructed on such premises, which becomes the receptacle of surface water, has been the curse of Escanaba and many other cities that are the rendezvous for this exiled brother.

The hospital ticket system in vogue in many parts of the country brings each year, following the return to the camps of these men in the autumn, to the Delta County Hospital (Fig. 2), innumerable typhoid cases, as well as cases of so-called winter cholera, the result of improper hygiene in the lumber camp. Hundreds of stools laden with typhoid bacilli are daily dumped on the shoal within 3,000 feet of the intake (Fig. 2) through which the inhabitants of the city must in turn look for their domestic water supply. Thus isolated epidemics of typhoid have clearly been traced to this source.

While the public water supply in this city has been directly responsible in the main for these recurrent epidemics, the common use of driven wells has in no slight degree aggravated conditions. Escanaba is located on a sandy peninsula. Driven wells, averaging 12 feet in depth, supply about 50 per cent. of the population. When one considers the fact that well-water is contaminated by the soil it falls on, and the soil that it percolates through, the danger of contamination by garbage and other filth is an unavoidable circumstance.

CEMETERY POLLUTION.

Aside from these factors that have made well water in this city a dangerous commodity, two cemeteries within the city limits (Fig. 1) are in position to contaminate all ground water. One's suspicions can but be aroused by these, when, during seasons in which the ground water reaches a high level, the dead are buried in from six inches to a foot of water. Contamination has been proved in most well water examined, and if a public water supply were properly served to the householders of this city, wells in general should at once be condemned. The pollution of wells is strongly evidenced by the high mortality of typhoid present in this municipality prior to the public water supply. With such a wide range of water pollution, milk pollution must follow as an inevitable circumstance. Although the subject of the milk traffic would bring out a very profitable discussion, time will not allow of its consideration.

LESSONS TO BE LEARNED FROM THESE EVILS.

"It is some compensation for great evils that they enforce great lessons." Such a history as I have presented implies a reticence to do the simple duty requisite in the field of prophylactic medicine. As the mortality from water-borne diseases is excessive, in what we look on as distinctively typhoid centers, so more extensive statistics will show the full scope of the problem that confronts the profession of this country. With the acknowledgment that typhoid and allied troubles are filth diseases, is also established the truth that these are also clearly preventable diseases. These fundamental observations on these diseases may appear trite, but in the exact degree that these appear so do they incriminate those of us who have been entrusted with the grand achievements of our brethren, who have offered their lives in the vanguard of preventive medicine, in order that we might accept the rich legacy of their martyrdom. If we would emulate such labor, no greater field offers itself to the medical profession at large than the eradication of what exists as a blot in many a hamlet and city of our commonwealth.

To this end it is not enough that sanitarians and public health officials wield public opinion. My observation as to the express need in the profession to-day is the activity of men with an enthusiasm and courage born of conviction that truth will ultimately triumph, men who, in the ranks of the general practitioner, will fearlessly express themselves to uphold the honor and dignity that the martyrdom of preventive medicine is worthy of. It is true that in order to possess enthusiasm for this work it is essential that a fund of knowledge along sanitary lines augment effort.

NEED OF STUDY IN SANITARY SCIENCE.

In this respect the necessity of establishing hygiene and sanitary science as a major study in the curriculum of medical schools becomes apparent. Only too often these diseases exist, but because of an apathy that too many in the profession seem willing to foster. I choose to explain this apathy as an apparent ignorance or cowardice, and it is self-evident that there are men in every community derelict in duty in not supporting intelligent and well-directed effort along sanitary lines. It is this lack of "gumption" that has continued to foster folklore and superstition and has held for nothing in the eyes of the multitude the principles that medical science in a Jenner, a Lazear and a Myers has sought to establish. It is true that prophylactic achievement can only be obtained by the sacrifice of selfish interests. Let us clearly recognize our duty, however, and find some comfort in the historic fact that the derision of the multitude has ever been the result of well-directed effort, and that principle will ultimately triumph.

We have reason to believe that a wave of concerted action has been started in this country by men, both in and out of the profession, and indeed,

> From the voiceless lips of the unreplying dead,
> *There comes* no word; but in the night of death
> Hope sees a

The Committee of One Hundred of the American Association for the Advancement of Science, as well as the Lake Michigan Water Commission, typify movements, the results of which at this time are perhaps but little appreciated. The "I will" spirit of Chicago has no better exemplification than in the moving spirit of the Lake Michigan Water Commission, as it now exists. Both the Committee of One Hundred and the Lake Michigan Water Commission, one representing a national and the other a sectional movement, in conjunction with the Bureau of Legislation, instituted by the American Medical Association, working hand in hand with the medical advisers of the many homes in this country, will elevate the ideals on sanitation, and thus, by wielding public opinion, carry fit and proper legislation, so necessary, especially as it concerns watersheds and public water supplies. State or national legislation offers the only solution in the eradication of water-borne diseases, and I trust that the day is near when the criminality of dumping sewage into a water used for domestic purposes will be apparent.

CONCLUSIONS.

1. Winter cholera has no specific bacteriologic pathology and is a synonym for the more common forms of bowel disturbances, choleriform in nature, occurring in cold weather.

2. The use of this term, interchangeably with the nomenclature of other gastrointestinal diseases, shows the great need of more exact phraseology, based on correct diagnosis.

3. Meteorologic conditions do not prove to be the exciting cause in these epidemics of winter cholera, but only as the factors instrumental in polluting water or milk are present, do these epidemics occur.

4. Winter cholera, as typified by these choleriform manifestations of diarrhea in cold weather, has no exciting cause in the activity of Pfeiffer's bacillus and does not, therefore, exemplify gastrointestinal influenza.

5. Influenza, with a symptomatology centering itself in the gastrointestinal tract, was present during epidemics of winter cholera, but these isolated cases occurred during epidemic influenza. Diagnosis in these cases is established by proving the presence of the associated micro-organism.

6. To the end of stimulating a greater enthusiasm in demanding intelligent and adequate sanitary reform, instruction in sanitary science should demand a major consideration in the medical curriculum.

7. Legislation controlling the watersheds and preventing contamination of public waters is imperative.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. DUTTON AND BREITENBACH.

Dr. E. L. Munson, Fort Sheridan, Ill.: It seems to me that we can not sufficiently appreciate the important fact that every large group of persons contains one or more typhoid spreaders, and consequently, the potential elements of an epidemic. The relations of the typhoid carrier in civil life are usually confined to a small group, and the results are consequently circumscribed, but the possibilities in the crowded camp of a military organization are almost appalling. In times past we have been too prone to accept, without question, the common idea that the excreta from healthy individuals, though offensive, had no latent power for serious evil. We look carefully after the excreta of the persons who are known to be sick, but we overlook the great responsibility of the spread of disease from the well. Now we do not know as yet what proportion of persons of any given age are harborers of the disease, or of the typhoid bacillus. I have seen certain studies which would indicate as many as four to the thousand. However that may be, the point is that, out of every large group, some persons are typhoid carriers. Either of these carriers must be identified, isolated and specially cared for, or we shall have to consider and treat the excreta of that great group of the community as infected. The time is coming when we must declare that human excreta, whether from apparently healthy persons or not, are dangerous at all times.

Dr. J. H. White, New Orleans: Instead of trying to cleanse its water supplies from typhoid as well as other pollutions, the State of Montana forbids that any of her streams shall be polluted, and says to the cities: "You shall not put any sewage into your streams any longer; you must dispose of it in some other way." Eighteen communities discharged their sewage into the potential water supply of the State of Montana up to recently. Five have been compelled to remove, and in process of law the other thirteeen will be compelled to move, so that the water supply will be free from pollution. While it is not possible for all the other states to do that, it is possible to prevent further pollution. In 1893, when on duty in Hamburg, Germany, I went over the question with Dr. Dunbar and another man in Hamburg, who was giving a quarter of a milion dollars toward the investigation and provision of some method of cleaning the small streams of Germany, and making them fit for use. This example is a good one for us, since the Elbe River alone is polluted with sewage from 38,000,000 people.

Dr. W. F. Dutton, Pittsburg, Pa.: The effluent of chemicals can not be filtered from Ohio River water. In Pittsburg the water corrodes the pipes and furnishes a water that is not fit for cooking and drinking purposes. The unfortunate individuals who are forced to use this water are prepared, by the gastroenteric irritation, to become ready victims of typhoid. It is disgraceful that a municipality of such vast wealth should sacrifice yearly, through gross negligence, so many lives. The ways and means adopted by Dr. Munson and Dr. Gorgas in stamping out disease during the Spanish-American war, and recently in our new possessions, are commendable. The municipalities of the Ohio valley should take a few suggestions from these examples and get to work.

Dr. O. C. Breitenbach, Escanaba, Mich.: This question of winter cholera has become a very important one because of atypical manifestations of disease in many of the municipalities of Illinois and Michigan, as well as other communities, throughout the country.

FRESH-AIR TREATMENT IN THE HOME AS APPLIED TO PEDIATRICS.*

ALEXANDER McALISTER.
CAMDEN, N. J.

If fresh-air treatment is demanded, at all hazards, in tuberculous adults, it is three-fold more imperative in children, in whom are the issues of adult life and also of probable death in youth or early adult life when the infantile infection is not detected and removed. Successful treatment of a child saves a member to the family and an adult to the community. Unsuccessful treatment, if not attended by death in early life, only contributes to the rank and file of adults a morbid being to face with increased risks and frightful odds the perils of unfolding adolescence, or, if a female, of the functions of motherhood.

But aside from this saving of life from the ravages of the white plague, the greater power of a redeemed and robust child-life in repelling or combating diseases incidental to subsequent years argues with equal force for vigorous and persistent use of the fresh-air treatment of children. Such treatment should be practically general, since it is indicated in active, latent and suspected tuberculosis; in scrofulosis, in lymphangitis—in fact, in all children of delicate, puny or frail constitution. But children who are not included in the above list, children whose parents are tuberculous, especially the mother, should not be denied these invigorating influences, for otherwise, sooner or later, they are likely to show a marked morbidity or other early signs of the tuberculous infection.

In other terms, there is to-day a great need for a general return to the ancient practice of "hardening children"—one of the arts lost in our modern domestic life. Twenty years' general employment of this fine art, along high scientific lines, in all civilized lands, would go a long way toward placing tuberculosis where it belongs, namely, in the group of diseases attendant on ignorance and heathenism, rather than enlightenment.

Modern medical research has forced on us several fruitful conclusions. The most important of these are:

1. The average duration of tuberculosis is longer than we know.

2. The majority of cases of tuberculosis begin in the earliest years of life.

3. When pulmonary tuberculosis appears in a youth, the point of attack has generally been from the inside—in all likelihood from bacilli that had lain dormant in the lymphatic system a long time.

In the old conception a case of tuberculosis began when the advent of an alien infection ushered in the first crisis in the development of the specific bacillus. We now know that this crisis simply marks the beginning of tissue-destruction, or, accurately speaking, consumption, and incidentally also of the absorption into the system of new and more harmful toxic products.

In the more modern and scientific conception, tuberculosis begins the moment the specific bacillus takes root, so to speak, in the soil of the system and thus begins its parasitic life. The earlier the system can be stimulated to throw off the infection the less the effort required. On the other hand, the more luxuriant the infecting bacillus, the greater the expellant force must be. These facts may be assumed as self-evident and as additional argument in favor of utilizing the fresh-air treatment in infants and children. Since the treatment can work only good and the tuberculous infection only evil for the child, the treatment should be enforced in all instances in which infection may be feared, but can not be positively disproved.

Here is an instance in medical practice in which reasons for suspicion should be diligently sought and a suspicion accorded weight equal to a scientific diagnosis. No race or period of life is wholly exempt from tuberculosis. The specific bacillus has been found in the placenta, thus forcing the conclusion that intra-uterine infection of an infant is quite possible, though perhaps rare, and that by just so far is the old term "inherited" applicable to tuberculosis. According to Holt, tuberculosis has proved fatal at the tender age of twenty days.

The success of the fresh-air treatment in children hinges on the physician's ability to enlist hearty family cooperation. The idea of inheritance still dominates the average mind. It is a pertinent fact that less than average intelligence is required to appreciate the benefits of air and sunshine to a debilitated constitution, while more than average intelligence fails to credit claims for like effects on disease. Hence the great importance of forcefully placing all the blame where it belongs—on an subnormal constitution—and of impressing the need for a practically out-of-door life for children.

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* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908

In this connection certain postmortem findings are of special interest. They show that the tuberculous infection is more frequent during the first year than during the second, and during the second year than during the third. Although these records are still too few for sweeping generalizations, they justify certain conclusions that are evident from other observations, namely, that infants are frightfully exposed to tuberculosis and, what is sadder still, that many succumb, directly or indirectly, to the infection. Perhaps it is to these two facts that we should look for an explanation of the fact that the infant mortality rate continues high while for other ages the rate is decreasing.

Other recent conclusions bearing on the subject and urging on us an outdoor life for children are, first, that in the subnormal infantile system vitality is lacking to throw the infecting bacilli from the glands into the lymph and blood currents to be annihilated; and, second, that during adolescence when the powers are rallying and these bacilli are dislodged they frequently find the lung tissue under tone and here become the germinating seeds of consumption.

Tuberculosis is, above all other diseases, bred in the family, and in a large measure, if not absolutely, controllable by domestic hygiene and curable by the fresh-air treatment. That is a sweeping statement, but it is well supported by facts. For argument's sake we may admit that in our ardor we are only riding to the extreme another therapeutic hobby. No more worthy hobby was ever ridden. In the entire list of therapeutic fads and fallacies of all ages there does not appear one hobby that could be ridden with greater profit. What is curative of tuberculosis is productive of constitutional vigor and prophylactic of practically all diseases.

Every infant enters on life with a certain capital of vitality. Alas, that in many instances this capital is so small and in many more so quickly squandered! The result is early physical bankruptcy, tending to early death or the laying of the deep foundation of diseases—notably tuberculosis.

Children generally respond well to this treatment. In the case of adults it is not always possible to carry out the treatment in the home, owing to the difficulty experienced in laying aside all business cares. Children, on the other hand, are passive and indifferent to surroundings generally. They require little attention apart from intelligent oversight.

The treatment must be conducted under the personal supervision of the family physician. Eternal vigilance and circumspection are demanded here just as in case of typhoid fever. Erroneous conceptions, false and antiquated notions, and gratuitous suggestions from outsiders, are best anticipated and forestalled.

Details of instruction as to treatment can not be laid down here, since they depend on the age and condition of the patient and the general home environments. The diet and strength of digestion demand first attention. An angle of the house, a porch, an awning, an outbuilding or the shady side of the house may be used as a nursery during the daytime. Yet the fact must not be overlooked that any strictly outdoor site may be fully equalled in merit by a nursery or sun-parlor where a limitless supply of dust-free air may be commanded.

It is well to map out for each child a sliding scale of hours to be spent in the open air. This progress should grow into a practically outdoor life. The bedroom must open into the outer air. The folly, if not culpable ignorance, that one meets on every hand relative to the dangers of draughts must be combated with patience and sound arguments.

The cough and fever generally yield first in successful treatment and hence are a valuable index. When these are absent, improved digestion and normal increase in body weight indicate good results of the treatment. Care must be taken to avoid exposure to the direct rays of the summer sun as well as to the sweep of high winter winds.

Finally, much depends on an intelligent appreciation of the fact that fresh-air treatment does not imply simply cold air treatment. "Cold" and "fresh" are not synonymous terms. The air in a cellar may be cold, but it is seldom fresh. Water from an ice-cooler may be cold but is never fresh. On the other hand, water drawn from a deep well may have a uniform temperature of 55 F., but is always fresh. When it stands in a vessel the freshness is lost, though the temperature may fall many degrees. Freshness in water is the sparkle the water brings up from the fountains of the earth. Freshness in air is the sparkle the air draws from the azure depths above us.

Aeronauts tell us that the great envelope of atmospheric air about us is a vast inverted ocean whose placid depths are in the heavens and whose surface is plowed and churned by the revolving earth, to the depth of hundreds of feet, into a mighty wave and billow-tossed surf. Life in this eternally agitated surf is outdoor life. In the fresh-air treatment the patient bathes continually in the surf of the aerial sea.

Then, to use one more analogy, the value of surf-bathing does not lie in the presence of salt or the percentage of salt in the water but in the surging ocean beyond and the impact of water on the body. Likewise the value of the fresh-air treatment is in the impact of the inspired aerial surf—the respiration of free, surging air.

580 Federal Street.

ABSTRACT OF DISCUSSION.

Dr. D. E. English, Millburn, N. J.: I can endorse everything in Dr. McAllister's paper. In regard to fresh air and cold air. I do not think that it is necessary to have the air very cold. I have observed that in steam-heated rooms, with the windows open on two sides of the room, the thermometer on the wall opposite the windows would sometimes register 20 degrees higher than the temperature out of doors.

Dr. C. F. Wahrer, Ft. Madison, Ia.: If we keep these children stirring in the daytime they will probably get all the fresh air they need. The problem is to get plenty of fresh air at night. Among the poor, fresh air is always cold air. By the use of a window tent something may be done in getting the proper quality of air. We must educate out of existence this old superstition that night air is dangerous air. Tuberculosis is a disease of civilization. I live in a city of 11,000 population, a city that is built on the river, so that we are practically in the country air. The consequence is that I do not see one case a year of tuberculosis in children. But it is a problem that must be dealt with in the cities, especially in the crowded districts among the poor. In the winter time the wealthy people can afford to have their rooms warm and the windows open, but in the poorer districts one can not get clean warm air. The only way we can bring about such a desirable result is to employ the aid of our legislators. When they are willing to spend as much for our children as for rust on potatoes and things of that sort, we may hope for an improved condition of affairs, and not until then.

DR. ARTHUR W. FAIRBANKS, Boston: In considering the problem of tuberculosis in children in the cities we must divide the cases into three classes: First, in well marked, absolutely hopeless cases the patients should be placed in a hospital to protect the community and the family. The second class includes slightly but definitely developed cases of tuberculosis in the initial stage. In these cases the patients can be cured only in a sanitarium. We must have absolute twenty-four-hour control of these children, if we hope to accomplish anything. The family will not carry out our instructions if the patient is in the home, and we can not appeal to the children to do what we require, so to get any result we must have them in a sanitarium. Then there is the third class of cases, the so-called pretuberculous cases, those offering the best soil for the development of tuberculosis. They are so numerous that the state should deal with them. They have to sleep at home, but they should be put into schools out of doors, in the woods. Children in these outdoor schools do well in Germany and in their studies they get along as well as they do in the town schools. We might shorten the vacations and keep them in the schools during the summer, for they are better off in the forest than they would be at home. When they are sleeping at home we should have nurses to visit them and see that they are getting the best air obtainable. But at best the air in the cities is not dust-free or smoke-free.

DR. JOHN M. BEFFEL, Milwaukee: In considering this problem of the treatment of tuberculosis in children, it should be announced that the time to cure tuberculosis is before the patient gets it. It takes a child of a certain potentiality to live in this world. The fact that those who die of tuberculosis die at the average age of 35 years shows that tuberculosis is not a disease of childhood, but that if they contract it in childhood they retain the organisms in the body until they are mature. So, the first thing to do in the treatment of the condition is to prevent the development of tuberculosis. The child of a tuberculous mother should not be put to the mother's breast. As our homes are constructed to-day, it is practically impossible to get fresh air in the home without subjecting the child to the possibility of developing some other disease condition. In a tuberculosis sanitarium we have a sleeping-room and a dressing-room, but in our modern houses the bedroom is the sleeping-room and dressing-room. If the child is to sleep in a cold room, then the mother must get up in that cold room and dress in it. She naturally hesitates to dress her child in such a cold room. If our houses were so constructed that the child and mother could dress and undress in a warm room and sleep in a cold room, it would subserve the interest of these children. Twenty-four hours of fresh air every day is the only cure. It was Vaughn who said that one should breathe fresh air twenty-four hours a day and that the only air one can breathe at night is night air. The night air is not the worst air in the world. In our great cities the night air is the best air in the twenty-four hours. It has been cleared by the sun and there is no longer so much dust and dirt in it, so that it is in better condition to breathe than at any other time. In the treatment of tuberculosis in the home many children succumb for want of nourishing food. There are two essentials to the treatment of tuberculosis; one is an abundance of fresh air, and the other is plenty of nourishing food. The Indian succumbs to the disease as soon as he is infected with it because he is a poorly nourished individual. Statistics have shown that children from 5 to 10 years are not as subject to the disease as they are at a later age. During the first five years the child is in the home; from 5 to 10 he is much in the fresh air, going to and from school. After the age of 10 years he begins to crowd to get through school. He eats a hurried breakfast, perhaps before the rest of the family are ready for it; he hurries to the schoolhouse and at noon hurries home to dinner. He eats hurriedly and rushes back to school again. He hurries home in the evening and prepares his lessons for the next day. It is no wonder that at 15 years of age tuberculosis increases at such a striking rate. The period when we should begin the fight against tuberculosis is during the first ten years of the child's life, giving plenty of nourishing food, plenty of fresh air and thus building up the power of resistance.

DR. T. G. ALLEN, Chicago: In the treatment of tuberculosis —and this applies especially to fresh air—personal observation and absolute control of the individual through the nurse is necessary, as someone has already said, for the family will not give the patient the necessary fresh air throughout the twenty-four hours without such supervision on the part of the nurse. There are many children spending five or six hours a day in school who ought not to be in school, but out of doors instead, in order to get the twenty-four hours of fresh air. Architecture is of importance and worthy of consideration, but since we are powerless to do anything in that direction, the next best thing is to hammer away at this idea of fresh air twenty-four hours a day; and we should see that children are kept in the open air, not simply tell the mother to keep them in it. Not only should we take the children out of school, if we have any suspicion of tuberculosis, but if a child is below par in any way, we should not send him to school at all until he is 8 or 9 years old and has some of that physique which only an outdoor life can give.

THE MENOPAUSE.*

DANIEL H. CRAIG, M.D.
BOSTON, MASS.

In this paper no attempt has been made to summarize the heretofore expressed views of others, nor to refute or corroborate statistics, but merely to express personal views obtained from personal observation.

The term menopause may signify widely different ideas, not only to doctor and patient, but to different doctors and even more to different women. Every medical man realizes that the period during which the menopause is in process of establishment is a trying one to every woman. It comes at a time when she is inclined to the development of malignant growths and degenerations, and when various and extremely troublesome nervous phenomena have come to be expected. To the less well informed this conjunction has from time immemorial furnished a most convenient scapegoat, and it is still a common experience of every gynecologist to have women come to him seeking relief from symptoms attributed by some nonplussed general practitioner to the "impending" or "beginning" menopause, wherein the most careful and painstaking anamnesis and physical examination fail to reveal the slightest evidence of such "impending" or "beginning" menopause, but wherein that same careful investigation succeeds in revealing a very evident but quite different cause for the symptoms. Those who thus attribute all sort of independent ailments to a problematical menopause seem to believe that in thus classing them they have done all that is necessary, as they practically invariably leave matters to time to remedy, thus coupling inefficiency in diagnosis to inefficiency of therapeusis.

To the woman the significance of the menopause varies as her personality. Many women, having had relatives or acquaintances afflicted with malignant disease at this epoch, look forward to its approach with actual dread, thus greatly heightening the natural tendency to nervous symptoms. Others dread it because they have seen some case in which every nervous manifestation arising for ten years was attributed to the menopause, and such women begin in their early thirties to get nervous over the dread of it, thus inducing quite independently of any actual menopause the very symptoms which they fear as its concomitant.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Another class of women dread it from a domestic standpoint, apprehending that at its inception they will grow old, unattractive and sexually incompetent, and so endanger domestic felicity. I have noted this fear quite as frequently in women younger than their husbands as in those older.

Yet another class look forward to the menopause as a savior, having been led to anticipate that the consummation of the menopause is to cure them of fibroids, cystocele, lacerations and, in fact, of about every form of pelvic ailment. And, painful as it seems, these hopes are only too often based on the promises of trusted doctors. Because these spontaneous recoveries occur on infrequent occasions should furnish no license to physicians to withhold proper treatment for years in the elusive hope that any given individual woman is to constitute the happy exception. For, as a matter of fact, she is much more liable, according to my observation, to develop a sarcomatous degeneration of her fibroids than to experience their spontaneous atrophy, and while marked vaginal atrophy is frequently observed after the menopause, it is almost invariably in those women who have never sustained any, or at most slight, vaginal injury or who have had such injuries properly repaired years before.

A final class of women hail the advent of the menopause with welcome. To them it means freedom from the duties of maternity, and they actually look forward to it as the beginning of a really care-free existence, but my experience leads me to believe that these are usually comparatively healthy women.

Out of respect to the supposed education of the medical profession, and in the assumption that the days of the employment of the menopause as a scapegoat are at an end, I will urge what follows as an outline for their use in the needed education of our women. I am absolutely convinced that, aside from a few benign nervous symptoms quite amenable to treatment, the normal menopause in a healthy woman is purely physiologic, and that any pelvic or exaggerated nervous manifestations arising at that time are dependent on a definite pathology as absolutely as at any other period of her existence and demand the same prompt and efficient treatment.

The normal menopause in a healthy woman becomes established in one of three ways. 1. The periods become less and less in amount until the vanishing point is reached. 2. The periods become more and more widely separated and disappear. 3. Menstruation goes on without any appreciable change until, after a perfectly normal and usual period, it fails to reappear. Needless to say, the first two methods may be blended.

Perhaps it may seem that my dogmatic statement that the normal menopause in a healthy woman carries no protean symptomatology demands elaboration. My method of determining these facts has been careful and has covered a period of sixteen years. From 1892 to 1900, while doing gynecologic work as my specialty, I also did general practice, and during nearly all of this time I used all possible material in which pelvic disease was not a factor to determine the true nature of the uncomplicated menopause, and I have continued this study up to the present in all suitable cases. My study of those cases in which the existence of the menopause in process of establishment has been an etiologic factor has produced some most interesting results.

A careful analysis of the subjective symptoms will practically furnish a diagnosis as to just what portion of the pelvic organs is pathologic, which deduction can almost invariably be proved correct by physical examination. When the symptoms are manifested as erratic nervous action, including the various phases of what Courtney terms psychasthenia, comprising emotional, melancholic and various other "nervous" lesions, including excessive "hot flushes," the ovaries may be confidently considered the point of origin of the trouble, and physical examination will almost invariably reveal some perfectly readily demonstrable lesion in one or both. In case no lesion can be demonstrated, so certain have I been in two cases that the ovaries were pathologic that I have unhesitatingly advised operation, although no abnormality could be made out by physical examination. In one of these cases operation was declined and the patient lost to sight, but in the other case operation was accepted. The ovaries were found normally situated and showed only evidence of beginning atrophy, being otherwise macroscopically normal, but on microscopic examination they both showed interstitial overgrowth of fibrous tissue producing cirrhotic changes, evidently of duration considerably beyond the duration of the menopause, although symptoms had not been present. Rarely, cases of ovarian abnormality may manifest themselves in localized pain without excessive nervous symptoms, but this is very uncommon. Such pain, unless it long antedates the menopause, if present at all, is seen in connection with the above mentioned nervous symptoms.

Lesions of the body of the uterus, metritis, endometritis, growths and malpositions have practically always given rise to irregularities in the flow. Usually the flow is erratic as to time and increased in amount. The one instance in which hemorrhagic symptoms are seen and the body of the uterus may not be at fault is in cases of beginning malignancy of the cervix.

Too long women have been consoled with the idea that normally a "dodging period" must be borne. Normally there is no such occurrence as a "dodging period." If any approximation to what has been so characterized occurs it is in itself an evidence of pathologic conditions.

Lesions of the cervix, with the exception of malignant growths, as above noted, give rise to local and referred pain and leucorrhea with minimal nervous complications. The pains of such cervical origin are usually deep in the pelvis, referred to the sacral region or to the region of one or both groins. Of course, these different localities may be pathologic in different degrees, and in association with each other, so that so simple a symptom complex as the foregoing suggests is rarely seen, but when carefully analyzed I am certain that you will all agree that my deductions have been correct.

One final point I wish particularly to emphasize. All these conditions antedating or accompanying the establishment of the menopause give rise to as acute suffering as at any previous time in the woman's life, and if they antedate the menopause the discomfort and disability often become greatly aggravated. As a matter of fact, many lesions first become troublesome at this time, the woman having had sufficient vitality and power of resistance to successfully nullify such lesions up to this time. Therefore, the doctor who prescribes a placebo, mutters a few platitudes about its being the "inevitable course of nature" and advises the woman to bear up and time will work her cure is failing utterly in his province. My experience has taught me that these cases are amenable to exactly the same treatment as is appropriate at other periods of the woman's life. When less radical methods fail, as before said, I unhesitatingly operate, with even better results than either earlier or later, as in so doing one is working *pari passu* with Nature, and her aid is not to be despised. The sudden completion of an already begun menopause has given rise to no unfavorable symptoms and has avoided a vast amount of suffering and probably some cases of malignant disease.

While on the subject of the suddenly induced menopause, I wish to mention one case which has come under my own unusually close observation. Of course, we do not now hear very much of the vapid twaddle which was at one time so prevalent anent the gruesome effects of oöphorectomy in young women, but we still have more than should be heard, since the need for it, namely, needless oöphorectomies, has also practically ceased. When the suddenly induced menopause has been accompanied by sexual loss, by nervous breakdown and other similar discomforts, it has invariably been in cases in which the lesions for which the operation was done were either very severe or of so long standing, or both, that the symptoms ascribed to the sudden loss of the ovaries were really symptoms of the original disease which the operation could not correct. This deduction would be worthless, except for the corroborative evidence of cases in which prompt operation has given complete relief with entire absence of all those *bêtes noires* of which we at one time heard so much. It was one such case which I wished briefly to outline.

A woman who was herself and whose husband was a close personal friend was operated on at her third severe attack of acute appendicitis, having been taken ill while away from home. The appendix had perforated, and the surrounding peritoneal cavity was a mass of old and recent adhesions. I am stating these facts from my own observation, as I arrived just in time to witness the operation. The pelvis had not become much involved in the present attack, although both tubes and both ovaries were imprisoned by unusually firm old organized adhesions, souvenirs of her previous attacks. The operator considered it advisable to remove both tubes and both ovaries, notwithstanding there had never been a single pelvic or menstrual symptom, and did so. Recovery was good. There were no nervous phenomena beyond occasional "hot flushes" and moliminal headaches, all of which ceased after a few months. She did not put on fat nor do any of the other baleful things so often predicted by those who did not operate. And such predictions were very common at that time, twelve years ago. The menopause was absolute, and yet to this day sexual desire is as keen as ever and orgasm is as complete as ever. Her sexual, nervous, and in fact her entire physical life was in no way changed by the suddenly induced menopause. These facts I was situated to know fully.

One swallow does not make a summer, but here is a case in which the woman's pelvic organs, circulation and nerve supply were not exhausted by a long-drawn-out inflammatory process in which the sudden establishment of the menopause certainly fulfilled the highest ideal function of preventive medicine without causing any of the much paraded symptoms which were at one time so seriously feared, and, in my estimation, it is only an index of what has occurred in many cases and what may always be confidently expected of prompt, efficient similar operations.

The Popular Education Committee of the A. M. A., on which Professor Clark has charge of the work regarding uterine cancer, should incorporate in its work the education of the general practitioner, and much more widely, of course, of the women themselves on the facts briefly outlined regarding the menopause. Women should be taught that much that they have heard about the menopause is past history and obsolete, and made to realize the wisdom of applying to their medical advisers at this period as they would at any other. Such an education would not only save an inestimable amount of suffering, but would enable many cases of malignant disease to be properly treated before reaching an inoperable degree of advancement. In the vast majority of all cases of inoperable carcinoma of the uterus the vaiuable, or rather invaluable, time has been squandered in attributing their symptoms to the "dodging period," and even their pain has been considered the inevitable concomitant of the normal menopause. And the fact which touches us most deeply is that in this belief, in this waste of invaluable time, in this loss of their one chance of life, they are only too often acting under the advice or at least approbation of an optimistic doctor.

SUMMARY.

To epitomize my ideas, then, I should say there are three normal types of the menopause, sometimes seen more or less in combination one with another; departures from these normal types are easily recognized; the symptomatology alone will very often point to the organ or region at fault, but such deduction should always be given physical confirmation; lesions at this time are as deserving of and amenable to treatment as at any other time; neglect of such treatment engenders inestimable, unnecessary suffering and is one of the greatest factors in causing so many malignant uterine growths to attain an inoperable state of advancement; failure to properly diagnose and treat such cases will inevitably bring opprobrium on our profession as a whole.

386 Commonwealth Avenue.

Clinical Notes

PIN IMBEDDED IN VEIN FOR FOUR YEARS.

H. LAMONT YOUTZ, A.M., M.D.
MOLINE, ILL.

The much mooted question of whether small pointed objects, such as needles and pins, migrate in the human body may be made only more obscure by the following details of a case recently seen by me. It has, however, some points of interest.

History.—About two years ago the patient, a married woman, aged 37, called my attention to a small hard substance in the flesh of her right fore-arm, which had been present then about two years. The mass could be readily palpated, being apparently just beneath the skin, as a long slender object, slightly movable. If grasped with the ends between the thumb and finger, pressure produced much pain. Otherwise no unusual tenderness was noted. The patient stated that some months before a doctor had examined the arm with the *x*-ray, and told her there was a needle imbedded there. The presence of the mass had caused her no discomfort and interested her only as a curiosity. A few days ago she appeared at my office and complained that the "needle in her arm" was bothering her, causing the arm to ache and feel numb.

Examination.—Examination showed no signs of inflammation at the site of the "needle," though the mass was plainly palpable. Examination under the *x*-ray disclosed what was apparently a genuine needle at the point under inspection, about 9 cm. (3½ in.) below the inner condyle. At a point 6 cm. (2½ in.) distal to this was a second object of a similar appearance. The presence of this had never been noticed by the patient.

Treatment.—Under cocain anesthesia, incisions were made over the two sites. Just beneath the skin in each case a dark object was plainly visible. Each seemed to be imbedded in a cord-like process. The lower end of the "needle" nearer the elbow was quite clearly defined, though the "cord" continued beyond the end of the incision. The upper end merged into metallic granular material—still in the cord—the latter continuing definitely beyond the extent of the contents. Cutting of the "cord" at each end of the "needle" with its granular accompaniment was followed by no fresh bleeding. When, however, the "cord" was cut at the distal end of the lower fragment, a vigorous and steady gush of blood, characteristic of a severed vein, surprised me. This occurred after I had freed the upper end of this fragment of "needle" and had dissected up the "cord" to an extent sufficient to give me at least 1 cm. (⅜ in.) of the free end of the spouting vein.

I am convinced that the distal fragment lay in and occluded the vein. From the similarity of its situation in a cord-like process it is probable the proximal fragment also lay in the obliterated vein.

The patient is ordinarily intelligent and not hysterical. She had no recollection of any local injury from a pin or needle. She stated that as a girl she frequently carried pins and needles in her mouth and even carried them so to bed. She remembers nothing of having swallowed any at any time. The upper fragment was noticed first about four years ago. The lower fragment measured about 1.5 cm. (½ in.), the upper 2.5 cm. (1 in.) in length. Both were much corroded. The granular fragments referred to are unquestionably products of the corrosion. One end of the lower fragment has a very small head, indicating that originally the object might have been a small-headed pin about 4 cm. (1½ in.) in length. The "small head," however, was of questionable identity—so small that it might have been the large end of a needle, corroded.

Is it probable that the pin could have migrated for some distance within the vein? I believe the object did migrate in the vein—against the blood current. Later questioning of the patient revealed the fact that during the week preceding the removal of the "pin" her hand swelled very badly—so much so that her rings became painfully tight and were removed with difficulty.

A PROBABLE CUTANEOUS ANTITOXIN REACTION.

A. A. ROBINSON, M.D.
OGDEN, UTAH.

The following peculiar phenomenon was observed in a case of diphtheria in which an immunizing dose of antitoxin had been given twenty months before the attack:

History.—J. T., male, aged 15, was exposed to diphtheria Nov. 6, 1906, and received a prophylactic dose of antitoxin. He escaped the disease at this time, but his brother died of it. Aug. 26, 1908, he contracted pharyngeal diphtheria and one day later I was called.

Examination.—On exposing the back to administer antitoxin there was noticed between the scapulæ, an urticarial spot about 5 cm. long and 3 cm. wide (2 in. by 1¼ in.), narrower at the lower border. The skin over this area had a blanched appearance. The margins were irregular and well outlined, but not elevated, and the surounding skin appeared perfectly normal. This gave rise to no itching or hyperesthesia; in fact, the patient knew nothing of its existence, but it was not there three days before. There were no other lesions of the skin to be found. On inquiry I learned that it was at this spot the prophylactic dose of antitoxin had been injected twenty months previously. The spot disappeared about four hours after treatment was instituted. The disease yielded in a remarkable manner to serum therapy.

Whether this is a specific reaction of the skin and subcutaneous tissue which have been supersaturated with antitoxin, to a diphtheritic infection following some time later, I am not prepared to say. The remarkable coincidence in site, the outline corresponding so closely with that produced by an injection, together with the rapid disappearance of the spot after administration of antitoxin, have caused me to be of a *post hoc propter hoc* mind in this case.

It will be interesting to know if such a phenomenon has been observed in similar cases.

TWO ADDITIONAL CASES OF MALIGNANT ENDOCARDITIS TREATED WITH COLLOIDAL SILVER; DEATH RESULTING.

S. SOLIS COHEN, M.D.
PHILADELPHIA.

Since publishing my record of six cases of malignant endocarditis treated with colloidal silver, with two recoveries, I have had the opportunity of treating two additional cases of this disease with persistent and sufficient doses of the same drug, but in both instances death has occurred.

I have felt it my duty to put on record this experience —which reduces my percentage of recoveries under this method from 33 to 25. However, as the use of colloidal silver "does no harm" in any instance, and has apparently done good in some instances, and as we have as yet no specific—even among biologic products—against an unidentified infection, I find it in accordance with the Hippocratic principle to continue to use the drug—in conjunction with other indicated measures—until something more promising is offered, or until I become convinced of its uselessness.

1525 Walnut Street.

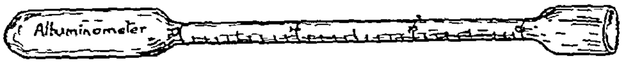
Italian Olive Oil.—According to Consul James E. Dunning, the action of the Italian government in making inspections and analyses of the olive oil offered for export is having the effect of securing a high standard for olive oil. The partial failures in the olive crop in certain years have induced the importation into Italy from the United States of large amounts of cotton-seed oil to supply the deficiency. The Italian government is trying to obviate this by taking means to improve the olive crop. The report continues: The attitude of the Italian government toward the whole matter probably means that eventually there will be a considerable falling off in the amount of American cotton-seed oil imported into Italy to make up for short crops here, while it appears to the consulate to sustain absolutely the contention of this office that adulteration is practically unknown in Italian export oil. Most of the adulteration which is under official consideration takes place in Italy, it is believed, by mixing cotton and other oils with the native oil. It is safe to say, however, that the Italian olive oil shipped to the United States is pure. At all events, it is now the intention to fix that purity by means of an official standard.

A NEW INSTRUMENT FOR THE RAPID AND ACCURATE ESTIMATION OF ALBUMIN IN THE URINE.

HENRY R. HARROWER, M.D.
CHICAGO.

The albuminometer consists of a clear glass tube similar in shape to the accompanying illustration and so arranged that the bulb at the lower end contains slightly less than 5 c.c. The 5 c.c. mark R is accurately made on the narrow portion of the tube, which from this point is graduated in tenths of a c.c. for 3 c.c. The end is made large to permit of easy filling.

The tube is filled to the mark R with 5 c.c. with Goodman's reagent.[1] Having previously diluted the specimen (one in ten is, perhaps, best), the dilution is added drop by drop, shaking between each addition, until a faint white cloud appears. The reaction is now complete and the amount of diluted urine added is read off on the scale. This corresponds to the amount of diluted urine that contains one-tenth of a milligramme of albumin. The amount in 100 c.c. or in a 24-hour specimen may then be easily ascertained. The accompanying table will save some calculation.



New albuminometer for use with Goodman's reagent. About one-third actual size.

SHOWING AMOUNT OF ALBUMIN IN URINES OF DIFFERENT DILUTIONS.

C.C. of Urine Producing Reaction	Grams of Albumin per 100 cc. Urine				
	Dil. 1 in 10	1 in 5	1 in 3	1 in 2	Undil.
2 0	05	.100	.166	.25	.5
1 9	.052	.105	.175	.263	.52
1 8	.055	.110	.183	.275	.55
1.7	0586	.117	.196	.294	.58
1 6	.0625	.125	.208	.312	.62
1 5	066	.132	.22	.33	.66
1.4	.0714	.142	.238	.357	.71
1.3	0769	.153	.256	.384	.76
1 2	083	.166	.276	.415	.83
1.1	.09	.18	.3	.45	.9
1 0	10	.20	.33	.50	1.0
.9	.11	.22	.367	.55	1.1
.8	125	.25	.416	.62	1.25
.7	.14	.28	.473	.71	1.42
.6	.166	.33	.55	.83	1.66
.5	.2	.4	.66	1.00	2.00
.4	.25	.50	.83	1.25	2.5
.3	.33	.66	1.1	1 66	3.33
2	.5	1 00	1.61	2.5	5.00
.1	1 00	2.00	1.33	5.00	10 00

The method has the following advantages:

1. The time required to perform the test is reduced to a minimum—a few minutes at the most.
2. Greater accuracy than with any other quantitative method.
3. Very small amounts of urine are necessary for the test, facilitating the estimation of albumin in experimental physiology, etc.
4. Simplicity—no centrifuge or other apparatus required.

2806 Paulina Street.

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[1] Described by Dr. E. H. Goodman and Suzanne Stern in The Journal A. M. A., July 4, 1908, xxxviii. The reagent consists of the following:

Phosphotungstic acid	1.5 gm.
Hydrochloric acid (conc.)	5 c.c.
Alcohol 95 per cent., q. s. ad	100 c.c.

Therapeutics

SCOPOLAMIN.

Scopolamin (hyoscin) is an alkaloid occurring in hyoscyamus together with hyoscyamim and hyoscipicrin, but in its manufacture is mostly obtained from other sources. It is closely allied to atropin, both in its chemical constituency and in its physiologic action.

The official preparation is *Scopolaminæ hydrobromidum*, which occurs as transparent, colorless, crystals of a bitter, disagreeable taste, soluble in alcohol, and very soluble in water. The beginning hypodermatic dose is .0003 gram (1/200 grain).

The official *Hyoscinæ hydrobromidum* is identical chemically and physiologically with the scopolamin hydrobromid.

Scopolamin (hyoscin) acts locally similarly to atropin, viz., it dulls and numbs the peripheral terminations of nerves, whether in the eroded skin or in mucous membranes, causes dryness of the throat, benumbing of the tongue, and a diminished secretion of saliva. It dilates the pupil more quickly than atropin, but the dilation does not last so long.

After absorption its action ordinarily is quite different from that of atropin both on the nervous system and on the circulatory system. Although there may be a slight period of cerebral excitement, the effect is generally hypnotic. This is especially marked when it is administered hypodermatically, a dose of 1/100 of a grain usually putting a patient to sleep in a few minutes. Occasionally scopolamin causes cerebral excitation similar to that caused by atropin, and perhaps even more active. Such patients show an idiosyncrasy against this drug, and as it is not of infrequent occurrence, should always be suspected until the patient's behavior under the drug has become known. A dose of 1/100 of a grain may cause wild excitement and delirium which may last for some time unless inhibited by a hypodermatic injection of morphin, or the administration of bromids or chloral. During such excitation the pupils are dilated, the throat dry, the face flushed, and the heart rapid.

Unlike atropin, which is a stimulant to the heart and a contractor of the blood vessels, scopolamin generally has but little such effect, and even an ordinary hypodermatic dose, 1/200 or 1/100 of a grain, may cause some cardiac and circulatory depression. In fact, when there is cardiac weakness scopolamin should not be administered. This unpleasant debilitating action on the heart is sometimes noticed when this drug is administered in delirium tremens; consequently, it should not be administered to any patient unless the circulation is at least fairly good and the patient can be at rest in bed. In other words, it is inadvisable to administer scopolamin to a delirious patient, when that patient must subsequently be moved to a hospital or to his home.

On account of the occasional undesirable stimulation of the brain by scopolamin and the frequent profound depression of the circulation that it can cause, the beginning dose to any patient whose tolerance is not known should be 1/200 of a grain hypodermatically. To repeat, it should be thoroughly understood that the action on the circulation clinically is never that of atropin. In other words, atropin may be administered in shock; scopolamin may cause shock.

The sleep from this drug lasts six or seven hours, and may be intensified or prolonged by the coincident administration of morphin. A combined injection of 1/200 of a grain of scopolamin (hyoscin) hydrobromid and 1/8 of a grain of morphin sulphate will generally cause prolonged and satisfactory sleep. Such a combination in emergencies is perhaps better than a larger dose of scopolamin, but, of course, if scopolamin is to be repeated for a time the morphin should not be given in combination, lest a habit be formed. On awakening from a scopolamin sleep there is often slight circulatory weakness. This signifies that the drug generally should not be administered to a patient as a hypnotic if that patient must arise in the morning and attend to active business. As a hypnotic it should be reserved for the sleeplessness occurring in acute conditions. It is often a satisfactory drug to use in delirium tremens and in the meningitis of pneumonia and typhoid fever. It must not be forgotten, however, that a larger dose may be required when there is active delirium, and such a dose may be followed by circulatory depression. The drug is often of great value in the sleeplessness of insanity, whatever the type. If for any reason scopolamin is given continuously for a time the patient acquires a tolerance and needs a larger dose than at first to cause sleep.

Although a combination of morphin and scopolamin is now often used as a prelude to ether and chloroform anesthesia, it seems inadvisable to give these drugs that cause depressant action on the respiratory center so that the anesthetist can not decide whether respiratory or cardiac failure is due to the previously given drugs or to the anesthetic. If he thinks that the anesthetic is causing the depression he may allow the patient to come sufficiently out of the influence of the anesthetic to permit shock to occur from reflex nerve pain. Morphin and scopolamin are now often administered in sufficient doses to produce anesthesia for operations or for a painless parturition without the subsequent aid of an anesthetic. While such use at times may be advisable and perhaps may be the best method of producing a loss of nerve sensation, it would be unwise to consider it universally correct or advisable.

The best method of administering scopolamin (hyoscin) is hypodermatically, but it is often advisable to give it for solution in the mouth or in a teaspoonful of water, and for this purpose the ordinary hypodermic tablet is the most satisfactory. The dose thus given by the mouth should not be larger than the hypodermatic dose, viz., 1/200 of a grain.

Scopolamin has been used as a nerve and muscle sedative in paralysis agitans. The beginning dose for this purpose is small, 0.00015 to 0.0002 gram (1/400 to 1/300 grain) two or three times a day. The patient rapidly becomes tolerant to the drug and requires an increase in the dose. It is therefore best, if possible, to use the drug only at such specific times as it may be necessary to quiet the hand tremor that the patient may write his signature. In such small doses, and on account of the tolerance he soon develops, the drug does not exert its hypnotic influence. It may be ordered for this purpose as follows:

℞.	gm. or c.c.	
Scopolaminæ hydrobromidi	003 or	gr. 1/25
Aquæ menthæ piperitæ	100	fl℥iii

M. et Sig.: A teaspoonful two or three times a day, as directed.

VALUE OF SWEATING IN THE TREATMENT OF INTERNAL AFFECTIONS OF THE EYE.

Dr. Howard F. Hansell, Philadelphia, in the *Pennsylvania Medical Journal*, August, 1908, describes his method of causing diaphoresis in serious eye affections. It seems true that sweating is not resorted to with sufficient frequency in edemas, congestions, and inflamations of the eye. Such treatment is deemed useful and advisable by many oculists, and Dr. Hansell well points out its advantages.

The methods most used to cause diaphoresis are by the administration of jaborandi (pilocarpin) and by dry heat. Owing to the fact that jaborandi occasionally produces considerable weakness, Hansell has abandoned its use, and now causes sweating by first covering the mattress of the bed on which the patient is to lie with a rubber sheet. The patient is then enveloped in three thick blankets. "On each side, extending from the feet to the shoulders, and as close to the skin as the heat will permit are placed receptacles filled with hot water." The patient is then given a cup of hot fluid, preferably tea.

The sweating should begin very quickly, and should continue, provided the hot water applications are kept up. If a glass of ice water is given a half hour after the sweating has commenced, the sweat glands are stimulated to increase their work. All during the sweating process the head should be either wrapped with a wet towel or an ice cap should be applied. Hansell makes the outside limit of this sweating process an hour and a half. Of course the duration of the sweating could be limited, if at any time there was faintness or prostration. After the sweating the body should be dried and rubbed with alcohol and the patient removed to a dry, warmed bed and allowed to remain there for several hours.

It is preferable that this sweating process should be accomplished in the afternoon, the patient remaining in bed until the following morning. The number and frequency of the sweatings depend on the severity and chronicity of the disease and on the physical condition of the patient. The reaction of the patient to the treatment and the effect on the eye inflammation, for which it is instituted, will determine the frequency of the sweatings and the length of time each should be allowed to continue.

At the conclusion of the sweat bath the patient's temperature may have risen to 102 or 103° F., and the pulse is accelerated, but in healthy reaction the temperature should have returned to normal two or three hours later. If the reaction is such as to produce a subnormal temperature, the duration of the sweat should be shortened, and should perhaps be preceded by the hypodermatic administration of strychnin or other stimulant. If the temperature remains high longer than two or three hours the sweat baths should not be continued.

Dr. George de Schweinitz, Philadelphia, in discussing this treatment, believes that in spite of the disadvantages of jaborandi, in some cases no other kind of sweat will do as much good to the local eye condition as will this drug.

The advantages of these sweatings seem to be due to the stimulation and increased activity of the lymphatic system, and this absorbent activity of the lymph, and possibly blood vessel systems, tends to clear up or relieve exudates and inflammations of the eye.

The special indications for the use of these sweatings are "inflammation of the sclero-cornea, of the uveal coat, acute and chronic, of the chorio-retina, and of the optic nerve." While this diaphoretic treatment is not always successful, Hansell has never known it to do harm. It is of greatest value in chronic inflammations associated with exudates into the different parts of the eye. Of course when atrophy or connective tissue change has taken place in any part of the eye, sweatings could do no good, but Hansell says that it can not always be decided positively from the ophthalmoscopic findings that an exudate has given place to connective tissue, and for this reason it is many times wise to try the efficiency of diaphoresis.

Of course such treatment does not preclude the coincident administration of salicylates when rheumatism is the cause of the eye inflammation, or of mercury or iodids when syphilis is the cause of the trouble.

Hansell also believes, as do others whom he quotes, that diaphoresis, perhaps best with pilocarpin (jaborandi) should be tried in opacities of the vitreous, and in alcohol and tobacco amblyopia, of course after the withdrawal of these causative agents. Patients suffering with loss of sight due to alcohol or tobacco should also, of course, be given strychnin.

PRURITUS OF THE PERINEAL REGION.

All sorts and kinds of applications, solutions, oils and fats, antiseptics, irritants and sedatives have been used for pruritus of the anal, scrotal and vulvar regions. In many patients only temporary relief is offered by any of these various treatments. Blistering and even escharotic action has been caused, and still with a subsequent return of the disease. The cause seems to be due to an irritating secretion, and the itching caused by this secretion compels scratching, which produces an eczema and even dermatitis.

The most successful treatment thus far offered is that by the *x*-ray, several applications of which for an average of ten minutes at a time, even to the point of causing mild dermatitis, afford prolonged and sometimes permanent relief. If the condition again recurs, one or two applications of the *x*-ray again relieves it, and for a still longer period. The suffering of such patients and the satisfaction at the relief afforded can not be understood except by those who have long been troubled by this condition.

Kromayer (*Deutsche Med. Wochenschrift,* Jan. 9, 1908), reports that he has successfully treated 160 patients by the local application of a 15 per cent. solution of caustic potash. This solution, of course, cauterizes the whole surface to which it is applied, and after the inflammation has subsided will undoubtedly cause temporary improvement, but he also advocates the *x*-ray treatment.

WARTS.

Dr. M. B. Hutchins, Atlanta, Ga., recommends the following as a successful treatment of these troublesome affairs:

He first shaves warts on the fingers and hands down almost to the bleeding point. He then applies "a little heap of salicylic acid" to the base of the wart and covers it tightly with a piece of adhesive plaster, renewing this application daily. The remnant of wart is soon removable. This method he says is painless and leaves no scar.

Old and hard warts alongside and under the edge of the finger nail he finds yield best to high frequency sparks or to pyrogallic acid powder applied as above and sealed on with adhesive plaster.

The soft warts of the face and eyelids he finds yield most perfectly to mild negative electrolysis.

New and Nonofficial Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NONOFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on an advertising page of THE JOURNAL *in the first issue of each month.)*

(Continued from Vol. LI, page 1337.)

PANASE.—Panase is a combination of the digestive enzymes of the pancreas derived from the pancreatic gland of the pig.

It is prepared by macerating the gland and extracting the enzymes together with a small amount of the proteid matter of the gland.

Panase is a light, yellowish white powder, having a slight odor and somewhat mucilaginous taste. It is not entirely soluble in water or glycerin owing to the small amount of protein present. Filtration of its solution, however, does not impair its digestive activity.

It is incompatible with strong alcohol, acids, alkalies, and other substances which destroy the activity of ferments.

Panase should possess the diastasic, proteolytic, milk curdling, and fat splitting properties of the pancreatic juice. It converts 200 times its weight of hydrous starch to loss of blue iodine reaction in ten minutes when tested according to the method of Blome (Pharm. Rev., 1906, vol. 24, p. 260). According to the method adopted by the Council it converts 113 parts of anhydrous starch to the colorless end point in ten minutes (JOURNAL A. M. A., July 11, 1908, p. 140; Jour. Am. Chem. Soc., May, 1908, p. 798). For the methods of testing for the different enzymes see Pancreatic Preparations.

Actions and Uses.—Panase may be employed as a substitute for the pancreatic juice in cases in which it is believed that the enzymes of the pancreas are deficient or in which it is desired to hasten the digestion of starch.

Dosage.—0.13 Gm. (2 grains) or more.

Panase Essence.—Essentia Panasi. A mixture containing in each 100 Cc., 4 Gm. of panase in a menstruum containing 14 per cent. of alcohol and 12.5 per cent. of glycerin with small amount of flavoring matter and sugar. Dose 4 Cc. (1 fluidram) containing 0.16 Gm. (2¾ grains) of panase.

Panase Tablets.—Each tablet contains panase, 0.13 Gm. (2 grains).

Manufactured by Frederick Stearns & Co., Detroit, Mich.

SPIROSAL.—Spirosal, $C_6H_4OH.CO.O.CH_2.CH_2.OH = C_9H_{10}O_4$, is the monoglycol ester of salicylic acid.

It is prepared by the action of ethyleneglycol on salicylic acid.

Spirosal is an almost odorless and colorless oily fluid, with a boiling point of 169-170° C. (336.2 to 338° F.) at 12 mm. pressure. It is easily soluble in alcohol, ether, chloroform and benzol and soluble in about 110 parts of water and 8 parts of olive oil.

Tests. 0.5 Gm. spirosal is saponified with 5 Cc. soda lye by slight warming, the clear fluid diluted with water and acidified with dilute sulphuric acid; fine crystalline needles of salicylic acid are formed, which, after being extracted with ether and the latter then evaporated, can be identified by the melting point and ferric chloride reaction. The saturated watery solution obtained by shaking 1 Cc. spirosal with 50 Cc. of water gives a filtrate, which becomes intensely violet on addition of ferric chloride, but should not be changed by barium nitrate or silver nitrate. 0.5 Gm. of spirosal when added to 2 Cc. of concentrated sulphuric acid should be given a light yellow and not a brownish color. 0.3 Gm., if incinerated on platinum foil, should not leave any weighable residue.

Actions and Uses.—Spirosal is said to be easily absorbed by the skin without causing irritation even when rubbed in thoroughly. It splits off salicylic acid in the tissues.

Spirosal is said to be useful for the external treatment of rheumatic affections.

Dosage.—It is used undiluted or mixed with 2 to 3 parts of alcohol or in a mixture with olive oil, 1 to 8, or in ointments with equal parts by weight of petrolatum or lard.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 794,982. U. S. trademark No. 62,856.

(To be continued.)

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[*For other information see second page following reading matter*]

SATURDAY, OCTOBER 31, 1908.

NITRITE POISONING BY INGESTION OF BISMUTH SUBNITRATE.

The introduction of subnitrate of bismuth into the stomach and bowels, for the purpose of establishing by radiography abnormalities in the position, function or size of these organs, has been regarded as an entirely harmless procedure. That such is not always the case is shown by recent observations at the medical clinic in Marburg, which it may be well to recapitulate at this time by way of suggestion to those who are using subnitrate of bismuth in the way indicated, as well as in other ways.

The first case (Brennecke and Hoffmann) concerns a 3-weeks-old child with severe gastrointestinal disturbances; after a period of improvement vomiting reappeared and the possibility of pyloric stenosis had to be considered; a suspension of 3 or 4 grams of subnitrate of bismuth in 100 c.c. of buttermilk was introduced into the stomach and an *x*-ray transillumination made. About twelve hours later the child became cyanosed and died in collapse, the postmortem showing marked methemoglobinemia. Chemically, considerable bismuth was found in the blood and in the liver. The cause of death was regarded as bismuth poisoning.

From the same clinic Böhme[1] reports a similar case, together with experiments, that throw new light on the nature of the poisoning. Böhme's patient was an atrophic, rickety child, 1½ years old, into whose stomach a suspension of bismuth subnitrate was introduced for transillumination, after which the subnitrate was washed out. Some general improvement then set in, but on account of an excessive meteorism a bismuth suspension was introduced two days later into the large intestine and another *x*-ray illumination made. Three hours later the child became markedly cyanosed and dyspneic and died in collapse. In this case also the autopsy showed marked methemoglobinemia, the entire blood being brownish-red, largely fluid, while the mucous membranes as well as the dependent parts of the skin were of a brownish-red color. In this case no bismuth could be demonstrated in the liver or in the blood, but nitrites were present in the blood and in the pericardial fluid. This demonstration no doubt explains the clinical phenomena in both cases since nitrites cause methemoglobinemia, cyanosis and asphyxia. It is reasonable to assume that the nitrites discovered in the blood in the second case were derived from the bismuth subnitrate introduced into the body and were the cause of the intoxication. The symptoms produced by bismuth are different.

Ordinarily, bismuth subnitrate is regarded as an insoluble material without any special effect on the organism. It is true that under the influence of acid juices a small amount may undergo solution in the body, but not sufficient to cause any symptoms so far as ordinarily known. As many bacteria readily reduce nitrates to nitrites, Böhme experimented to determine whether or not bismuth subnitrate undergoes decomposition with the formation of nitrites in the presence of the colon bacillus and when mixed with human feces. He found that in the test-tube a mixture of bismuth subnitrate with colon bacilli or with feces gives rise to nitric acid and that the production of nitric acid is greater and more regular when the feces of nurslings are used than feces from adults. He also shows that under special circumstances in cats and rabbits nitrites may be formed from bismuth subnitrate and absorbed into the circulation so that nitric acid appears in the urine and in the blood. Whether the *x*-ray has any action on bismuth subnitrate does not seem to have been studied.

The practical lesson from these observations is that the introduction of large quantities of bismuth subnitrate may lead to the formation and absorption of nitrites which in turn may cause methemoglobinemia and death. Consequently a substitute for the subnitrate should be found, and perhaps the subcarbonate may answer the purpose.

LESSONS OF THE TUBERCULOSIS CONGRESS.

Undoubtedly the most interesting phase of thought presented at the recent International Congress on Tuberculosis was the thorough-going optimism of all the world authorities on the disease as to the possibility of its complete eradication. In spite of the fact that at present tuberculosis carries off such a large number annually—one in eight of our population, it is stated—the men who know most about the disease are practically a unit in declaring that it is only a question of time, of education, and of the enforcement of definite preventive regulations till the disease shall not only cease to be the scourge that it is, but be under absolute control. This conclusion is reached notwithstanding that it is now more than ever acknowledged that at present practically every member of the human race who has reached the age of 30 has or has had tubercle bacilli somewhere in his body and presents definite tissue signs of that invasion. This point was forcibly insisted on by the surgeon-general of the Russian army, but his opinion is only an emphatic expression of what has come to be generally realized.

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[1] Arch. f. exp. Path. u. Pharmakol., 1907, lvii, 441.

It is not the tubercle bacillus that counts for so much in the fatality of the disease as the condition of the patient in whose tissues it finds lodgment. Seven-eighths of us are capable of resisting the invasion of the bacillus, not only before but even after it has gained some foothold in our tissues. We now know that the one most efficient aid in the increase of resistive vitality is fresh air. Even when the bacillus is rapidly making headway in a reasonably strong patient, life in the open air will enable that individual to resist it successfully. It is because people live in confined quarters, rebreathe air, submit to having their lungs irritated by dust of all kinds, and put up with other similar conditions connected with our present mode of life, that pulmonary tuberculosis is making such great ravages. Tuberculosis is principally an urban disease, and as in modern times the large city is becoming more and more the home of the majority of the population, it is evident that the conquest of tuberculosis depends on the enforcement of sanitary principles in large cities, especially in the matter of provision of air in dwellings and the regulation of ventilation in factories and industries of all kinds.

This is as important as the prevention of the distribution of the bacillus from person to person. In spite of the fact that an individual may harbor the tubercle bacillus in his tissues, it is not dangerous as a rule, if he has air and food enough, unless he has been seriously weakened by disease. Factory inspection, ventilation laws, tenement-house reforms — these are the problems which, according to the recent International Congress, mean as much for the crusade against tuberculosis as the sanitary regulation of the disposal of sputum, the prevention of public spitting and the cleansing of dwellings after tuberculous patients have lived and died in them. These latter are valuable measures, but they represent only a few of the factors in the prevention of the spread of tuberculosis, the most important of which involve the ventilation problems of our crowded populations whether in city or country.

Koch's insistence that eleven-twelfths of all the tuberculosis which affects the human race, and that practically all the pulmonary tuberculosis which is by far the most dangerous and fatal type of the disease, comes from human sources must have consideration. It should make us realize just where and how our efforts must be concentrated for the improvement of conditions so as to lessen the danger from the disease. If we have been willing and ready to spend money on the prevention of the spread of disease through the intestinal tract by regulations with regard to the health of cattle and the inspection of dairy herds and of meat, we should be willing to do the same for corresponding legal regulation with regard to consumption. The logical outcome of Koch's view is that one tenement house badly ventilated in a large city may do much more than a dairy herd infected with tuberculosis in spreading the disease. Also that a single factory in which there is no provision for the carrying off of dust, and in which the rebreathing of air is inevitable, will foster more cases of tuberculosis than probably all the butcher shops of a large city would occasion even if uninspected. Our regulation of animal tuberculosis has been admirably carried out; it has been worth all that has been spent on it and more. Now we must do at least as much for the regulation of conditions relating to human life that will effectively aid in preventing the spread of tuberculosis among human beings.

YELLOW FEVER IN FRANCE.

Nine cases of yellow fever have developed at Saint Nazaire, a port at the mouth of the river Loire, about thirty-eight miles west of Nantes, France. The patients were sent to a hospital and five died. The American consul at Nantes reported[1] that the disease was imported by a French steamship from Fort-de-France, Martinique, where there were forty-five cases, with eleven deaths, from June 27 to September 26. The cases at Saint Nazaire occurred ashore several days after the vessel had been given pratique and the passengers had landed.

It is a well-known fact that at various times yellow fever has gained a foothold in Europe. Its appearance in European ports on board vessels and at quarantine stations in the past has not been an unusual occurrence. The last cases previous to the present appearance at Saint Nazaire were in 1894 at Trieste, Austria, where two deaths occurred from the disease. The patients were sailors who landed at Genoa from Brazil and went by land to Trieste.

Epidemics of yellow fever in Europe are rare, though at times they have been disastrous. In a "History of Yellow Fever in Europe" by Assistant Surgeon-General J. M. Eager,[2] it is stated that the initial advent of the disease in Europe was at Lisbon in 1723. During a devastating epidemic at Barcelona in 1821 approximately 25,000 persons died within five months of yellow fever. At Lisbon, in 1857, the disease prevailed for five months and 13,000 persons were stricken, the mortality being almost 50 per cent.

The city of Saint Nazaire, from which the present cases are reported, is of interest from an epidemiologic point of view owing to the fact that, in 1861, there occurred at that place the only important epidemic of yellow fever that ever broke out in France. By a curious coincidence, both in the present outbreak and in the epidemic of 1861, the disease originating in the West Indies entered the port of Saint Nazaire unobserved.

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[1] Public Health Reports, Oct. 23, 1908; also mentioned in the Paris Letter, THE JOURNAL A. M. A., Oct. 31, 1908.

[2] Bulletins of the Yellow Fever Institute, Public Health and Marine-Hospital Service.

In June, 1861, a ship of the port of Nantes, the *Anne-Marie,* with a crew of sixteen, sailed from Havana, laden with barrels of sugar between the tiers of which layers of sugar cane were placed to dress the cargo properly. The history of the cruise is the typical story of an old-time pest ship. There were violent rains and broiling calms, and during the voyage nine sailors fell sick and two died. In this condition the ship entered the port of Saint Nazaire, twenty days after the last death and ten days after the inception of the final case of suspicious illness. Since no case of sickness had occurred during the last ten days and all were well on board at the time of arrival, the vessel was given free pratique. An epidemic followed in the shipping of the harbor and in the neighboring places ashore. Seven vessels were infected, on which there were forty cases of yellow fever and twenty-three deaths. All the infected vessels were stationed down the wind from the *Anne-Marie.* Two neighboring ships, one belonging to the French navy, the other a passenger transport, were posted near the *Anne-Marie,* but up the wind, and remained free from yellow fever. This epidemic is of unusual interest inasmuch as it has been held that the facts adapt themselves in a perfect fashion to the theory of the propagation of yellow fever by mosquitoes.

As regards the cases of yellow fever recently reported at Saint Nazaire both the season of the year and a full understanding of the etiology of the disease are fair guarantees of its speedy subsidence.

THE DEADLY TYPHOID CARRIERS.

In our news department last week we gave an account of the discovery of a typhoid bacilli carrier. Twenty-six cases of typhoid in Georgetown, D. C., between October 8 and 15 were traced through milk to one dairy farm in the neighborhood. Investigation developed that the employés were healthy and that no case of typhoid had occurred among them for years; no other source of infection could be found. Finally, a systematic examination was made of the dejecta of all employés. This brought to light the presence of large numbers of typhoid bacilli in the dejecta of a woman milker of the dairy who had had typhoid fever eighteen years before. Albert[1] has recently reported a similar outbreak of typhoid likewise attributed to infection of milk by a bacillus carrier, and in the article by Trask in this number of The Journal two other instances are recorded of the connection between bacillus carriers and typhoid infected milk. The remarkable series of infections in seven different families traced by Soper[2] to a bacillus-bearing cook is still fresh in the minds of our readers.

Such cases encourage the belief that the obscurity that surrounds certain outbreaks of typhoid can often be dispelled by the bacteriologic examination of persons engaged in handling milk or other foods. The absence of a history of recent or remote typhoid can no longer be taken as conclusive.

It is not reassuring to contemplate the possibilities of infection through typhoid carriers. What security is offered at present that certain milkers in "certified" or "inspected" dairies may not belong to this class? Must the housewife, struggling with the "servant problem," require from the prospective cook a certificate that she is free from the typhoid bacillus? It is interesting to speculate to what degree the evil touch and the ill luck attributed to the presence of certain individuals has a bacterial basis.

Whatever new complications the existence of the wandering bacillus carrier may introduce into the work of public-health officials, it is perfectly clear that, since the number of carriers bears a distinct relation to the amount of typhoid in a community, any reduction in the totality of the disease will affect absolutely the number of carriers. The safeguarding and purification of the water supplies in the United States in the last few years have done much to diminish the extent of water-borne typhoid, but it must not be forgotten that in many communities the character of the water supply is still an urgent problem. Two articles[3] in this number of The Journal vividly portray conditions still existing. The cumulative influence of preventive measures is as marked here as in some other infectious diseases. Diminish the amount of water-borne disease and we thereby reduce the number of typhoid carriers, and so lessen the opportunities for a long series of milk-borne epidemics.

When the bacillus carrier is once found, a satisfactory method of dealing with him is not yet assured. In many cases, perhaps in the majority, the source of the continued supply of bacilli is in the gall bladder, and up to the present the attempts at a permanent internal disinfection have not proved successful. An operation on the gall bladder might remove the source of infection, but there are evident objections to this procedure. Park[4] has clearly set forth some of the serious features of this new problem that health officials have to meet.

MEDICAL EDUCATION IN LONDON.

In "An Address to Students," the London *Lancet*[5] points to some of the problems at present confronting the London medical colleges All the twelve medical schools affiliated with the University of London continue to teach the fundamental branches—anatomy, physiology and chemistry—with the result that several of the schools have classes which are pitiably small. In some instances the teachers are miserably paid and there are not sufficient funds for the needed equipment for laboratories and demonstrations. There is also much duplication and triplication of courses so that the University of London seems to be suffering from an excess of machinery. It is claimed also that undue importance is attached to these fundamental branches. Anatomy, physiology and chemistry are of much importance and for special cases deserve the fullest attention, but for the average student are chiefly to be studied for the bearing which they have on the practice of medicine and surgery. At present much is being taught in those subjects which is of no direct use to the medical student. Again, so extensive has become the domain of medical knowledge that a general adjustment of the medical curriculum seems necessary owing to its present overloaded character. The following statement needs no comment:

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[1] Hygienic Laboratory Bull. No. 41, p. 49.

[2] The Journal, Jan. 15, 1907.

[3] Dutton and Breitenbach, pp. 1496 and 1499.

[4] The Journal, Sept. 19, 1908.

[5] Aug. 29, 1908.

"There is not time, there is not a possibility of one man being able to become an experienced clinician whether in medicine or surgery and at the same time be experienced in all the laboratory processes which now form so important a part of modern diagnosis and treatment." The chief blame is laid on the examining bodies whose demands of minute details at examination must be met by the educational bodies. There seems to be need, therefore, that the qualifying examinations be modified and made less burdensome.

The problems connected with medical education, and which have developed through the increase and broadening of the knowledge on which the medicine of to-day depends, are not for one country alone to solve. A study of what other countries are doing in the matter will be of interest to those who are planning a readjustment of the medical curriculum of our own country, and may prevent our having to contend with similar difficulties.

"HEALTH-PRODUCING DISEASES."

A common idea indulged in by the general public is that some serious disorders, such as smallpox and typhoid, when recovered from leave the patient in an improved condition of health. To a certain extent this is based on fact; some diseases leave the patient immune and some disorders, that have but a slightly deleterious effect on the system in general, make the patient at least feel better, if only by contrast, when they are over with. Seasickness is notably one of these with a large proportion of its victims. Again, many people live under hygienic conditions only when they are sick; and rather severe organic lesions might possibly be compensated for by the general benefit due to the enforced abstinence from insanitary habits and modes of living. In modern conditions it is possible for a nervous breakdown of some specially strenuous individual to be prevented or postponed by the rest obtained through a sickness. All general practitioners can relate instances of this kind. At the same time there seems to be a real antagonism between certain diseases, there being seemingly good evidence that a mitral lesion is to a certain extent a prophylactic against pulmonary tuberculosis. When, however, as in a recent item going through the lay press, the statement is made that such disorders as typhoid improve the general health, it is time to make a correction. We so rarely see a severe case of smallpox that almost anything can be said about it without contradiction; few physicians can tell much about the outcome of such a disease from their personal observation. Before the days of vaccination its lasting bad effects were sufficiently observable and it left many of its victims in such a condition that they could almost justifiably wish that they had not recovered. To say, however, that typhoid benefits if it does not kill is an extreme assertion. Too many of us have seen uncomfortable sequelæ to coincide with such a statement. The claim also that chronic bronchitis improves the health of elderly persons is another unverifiable assertion, and there are few probably who experience the so-called benefits who would not be willing to forego them. Such statements are examples of a sort of pseudohygienic stuff which is altogether too popular with the public.

Medical News

COLORADO.

County Society Organized.—The medical men of Morgan County met at Fort Morgan, September 26, organized a county medical association, and elected Dr. Arthur F. Williams, Fort Morgan, secretary.

Food Products Must Be Screened.—The Colorado State Board of Health has ruled that the display of food products for sale, unless completely screened against flies, is a nuisance, and that dealers will be prosecuted for violation of the rule.

Personal.—Dr. Michael D. Healey, Denver, has returned from abroad.——Dr. Peter O. Hanford, Colorado Springs, who was injured in an automobile accident recently, has recovered and resumed practice.——Dr. Francis B. Rothrock, Colorado Springs, has gone to Vienna.

Typhoid in Denver.—There have occurred in Denver 53 cases of typhoid fever among 130 families supplied by a dairy in an adjoining county. No cases have occurred in families where the milk was boiled. Six deaths have resulted. The wife of the dairyman referred to had typhoid fever, and the excreta were not properly guarded. It is believed the infection was conveyed by flies, as gelatin plates exposed in the milk house showed cultures of colon and typhoid bacilli. The dairy has been closed. The Denver Dairyman's Association has inaugurated a series of lectures on "The Sanitation of Dairies."

Charged with Hiding Typhoid.—It is reported that sixty physicians of Denver have been arrested for having failed to make proper reports on typhoid fever and other infectious diseases. Dr. Hugh L. Taylor, secretary of the State Board of Health, and Dr. Lewis E. Lemen were arrested October 9 on warrants issued by Dr. William H. Sharpley, the health commissioner, on the charge that they had not reported to the department cases of typhoid fever under their care at Mercy Hospital. On October 13 they are said to have been found guilty and fined each $20 and costs. The defendants are said to have admitted technical guilt.

GEORGIA.

Prescriptions for Alcohol.—During September the physicians of Athens are reported to have issued 103 prescriptions for alcohol, and of these 55 were issued by four men.

Municipal Laboratories.—The board of sanitary commissioners of Savannah announces the opening of the city bacteriologic laboratory. It occupies four rooms in the city hall and will be supported by the board as an aid to the control of public health, and for the study of problems in sanitary science. Dr. V. H. Bassett, formerly assistant superintendent and pathologist of the Milwaukee County Hospital, has been made director.—The Augusta Board of Health has opened its bacteriologic laboratory under Dr. William C. Lyle, city chemist and acting president of the board. The room adjoining the bacteriologic laboratory is to be equipped as a chemical laboratory.

ILLINOIS.

Communicable Diseases.—Maywood is said to be suffering from an epidemic of typhoid fever, 25 cases having been reported in the last ten days.——Batavia reports 9 cases of typhoid fever.——Scarlet fever is reported from Carpenterville, and East and West Dundee.——Braceville is reported to have a number of cases of diphtheria.

State Conference of Charities.—At the thirteenth annual session of the Illinois State Conference of Charities, held at the Illinois Western Hospital for the Insane, Watertown, the conference went on record as favoring the establishment of a state colony for epileptics, a state sanatorium for tuberculosis, and the extension of the work of the visitation of children. A resolution was also advanced by Dr. W. E. Taylor, calling for a state law for physicial and mental examination before the issuance of marriage licenses. The following officers were elected: President, William C. Graves; secretary of the state board of charities, Springfield; vice-president, Rev. James J. Shannon, Peoria; secretary, Dr. Frank P. Norbury, Jacksonville; assistant secretary and chairman of the committee of exhibits, Harry N. Heiser, Peoria; executive committee, Alexander M. Wilson and Allen J. Burns, Chicago; Burton F. Peck, Moline; Dr. J. W. Pettit, Ottawa; Henry Davis, Springfield; Mrs. Mary Robinson, Rock Island, and Miss Julia Lathrop, Rockford; committee on tuberculosis, Dr. Everett J. Brown, chairman, Decatur; committee on epilepsy and improved condition of the insane, Dr. George A. Zeller, chairman, Peoria; committee on children, Mrs. Richard McCauley, chairman, Normal; legislation, Sherman G. Kingsley, chairman, Chicago; social legislation, Dr. Charles R. Henderson, chairman, Chicago; penology and nominating committee, Dr. F. Emory Lyon, chairman, Chicago; committee on voluntary agency and the needy family, Miss Dina Ramsey, chairman, Rock Island; and committee on public care of poor, S. T Metcalf, chairman, Buffalo.

Chicago.

Back from Europe.—Dr. and Mrs. Philip S. Doane returned from Europe October 25.——Dr. Alexander H. Ferguson has returned from Europe.

Doherty Dies.—Dr. David J. Doherty, who had a second attack of cerebral hemorrhage October 23, died October 27, in St. Benedict's Hospital. Further notice will appear in The Journal November 7.

Hospital Merger.—The Central Hospital Association has acquired the property of the Central Hospital, 309 Fifth Avenue, the Woman's Hospital, Thirty-second Street and Rhodes Avenue, and the Illinois Hospital at Washington Boulevard and Halsted Street. Dr. Jacob F. Burkholder is announced as president of the association.

Hospital Cornerstone Laid.—The cornerstone of the new South Chicago Hospital was laid October 25, by H. M. Sloan, president of the association, assisted by Drs. William A. Evans, health commissioner, Albert W. McLaughlin and Engelbrecht Nelson. The hospital will cost $25,000, and will accommodate 60 patients. The building is to be three stories in height, 100 feet long and 50 feet deep.

Deaths of the Week.—During the week ended October 24, 510 deaths were reported, equivalent to an annual death rate per 1,000 of 12.28. Most notable among the deaths is the increase in the mortality from diphtheria, from which 20 deaths were reported. Acute intestinal diseases caused 60 deaths; pneumonia, 53; heart diseases, 46; consumption, 42; violence (including suicide), 40; nephritis, 37; and cancer, 30. In addition to the 20 deaths noted from diphtheria, 11 deaths each were reported from scarlet fever and typhoid fever, and one death from influenza.

Society Meetings.—At the annual meeting of the Chicago Gynecological Society, October 16, the following officers were elected: President, Dr. Henry F. Lewis; vice-presidents, Drs. Charles E. Paddock and Rudolph W. Holmes; secretary, Dr. Gustav Kolischer; treasurer, Dr. Charles B. Reed; editor, Dr. Emil Ries; pathologist, Dr. George Schmauch; councilor, Dr. Robert T. Gillmore; and alternate, Dr. Channing W. Barrett. ——At the twenty-first annual meeting and banquet of the Scandinavian-American Medical Society of Chicago, held October 15, Dr. O. Theodore Roberg was elected president; Dr. E. Olsen, vice-president, and Dr. Andreas Klovstad, secretary-treasurer.

Contagious Diseases.—A total of 556 cases of contagious diseases was reported for the week, an increase of 142 over the preceding week, and of 277 over the corresponding week of 1907. The cases were distributed as follows: Diphtheria, 171; scarlet fever, 158; typhoid fever, 89; tuberculosis, 57; measles, 34; pneumonia, 20; chickenpox, 15; whooping cough, 6; smallpox, 1; puerperal fever, 1, and diseases of minor importance. 9. As compared with the preceding week, there was an increase of 39 cases of diphtheria; 50 of scarlet fever; 25 of measles; 27 of tuberculosis; and 9 of chickenpox, while typhoid fever decreased 15 cases.

INDIANA.

Physicians' Club Formed.—The Newcastle Physicians' Association was organized September 22, Dr. Elmer H. Brubaker being elected president; Dr. H. H. Koons, vice-president; Dr. Clifford E. Canaday, secretary-treasurer.

Hospital Notes.—St. Joseph's Hospital, Logansport, is under cover, and expects to be ready for occupancy January 1.——Reid Memorial Hospital, Richmond, is reported to be more crowded than ever before in its history. The majority of the patients are typhoid-fever cases from the Wernie Home.

KENTUCKY.

Free Dispensary Established.—The free clinic and dispensary established in the Good Samaritan Hospital, Lexington, with Dr. David Barrow, president; and Dr. Thomas C. Holloway, secretary, was formally opened October 5.

State Medical Society Incorporated.—The articles of incorporation of the Kentucky State Medical Association were filed September 30, with the clerk of Warren County. For the purpose of organization the president, vice-presidents, and secretary were designated, and the association is organized without capital stock, and not for private gain.

MARYLAND.

Deaths of the Week in Baltimore.—The death rate for last week was the lowest for several years, 14.16 per 1,000. The leading causes of death were consumption, 25; nephritis, 16; heart diseases, 13; pneumonia, 11; cancer, 9; typhoid fever, 7.

Society Election.—At the annual meeting of the Allegany County Medical Society, held in Cumberland recently, the following officers were elected: President, Dr. Timothy Griffith, Frostburg; vice-president, Dr. Henry W. Hodgson, Cumberland; secretary-treasurer, Dr. Charlotte B. Gardner, Cumberland; and censor, Dr. James C. Holdsworth, Eckhart Mines.

Academic Day.—The University of Maryland will celebrate "Academic Day" November 11, the anniversary of the founding of the department of arts and sciences. A musical program in charge of Dr. B. Merrill Hopkinson will be given, after which academic exercises will be held, at which a bronze tablet to the memory of the late Major James Carroll, Medical Corps, U. S. Army, will be unveiled in the main medical building. Dr. William H. Welch will deliver the principal address.

Personal.—Dr. Anna S. Kugler, Baltimore, for twenty-five years medical missionary in Madras, India, left last week for Guntur, India.——Dr. Betty Nilsen, Baltimore, has left for Rajamundry, India, for missionary service.——Dr. James D. Iglehart, Baltimore, was elected secretary, and Dr. John H. Jamar, Elkton, a member of the board of managers of the Sons of the American Revolution, October 19.——Dr. Henry L. Naylor, Pikesville, has succeeded Dr. Harry C. Hess, Govans, as secretary of the Baltimore County Medical Society.——Dr. Josiah S. Bowen is reported to be ill with pneumonia at his home in Mount Washington.

Bayview a Disgrace.—Bayview, the city almshouse and hospital for the sick poor at Baltimore, after investigation by Dr. Carey B. Gamble, Jr., is announced to be a disgrace, overcrowded and unhygienic, so that many inmates do not have proper light and air. Men are said to be quartered in places formerly used for coal bins and known as "the tunnel." The board of supervisors of the city charities has asked for an appropriation of $150,000 to erect an addition to the hospital to meet the emergency. The idea of the board is put up a group of buildings for hospital purposes, and also a heating and pumping plant so the present building may be used for almshouse purposes only. Dr. Arthur D. Herring, secretary of the State Lunacy Commission, advocates the abolition of the insane department at Bayview, advises that its patients be placed in the state institutions and that a new building be erected for the reception of acute insane recoverable patients of Baltimore. He pronounces Sylvan Retreat in the Alleghenies the best county asylum in the state. The conditions at Montevere Hospital, Frederick County, were bad beyond description. The conditions were likewise unsatisfactory in Worcester, Somerset, Wicomico, Dorchester, Talbot, Caroline and Kent counties.

NEW HAMPSHIRE.

In Memoriam.—The American Electro-Therapeutic Association, at its recent meeting, adopted resolutions regarding the death of Dr. John D. Holt, Berlin, extending sympathy to his wife and family in their bereavement.

State Sanatorium.—Work has already been begun on the State Sanatorium for Tuberculosis, at Glen Cliff, Warren Summit, in the town of Warren. The main building is to be constructed of brick and the bungalows of wood.

Communicable Diseases.—On account of the epidemic of diphtheria in the State Industrial School, Manchester, all the inmates have been given prophylactic inoculations of antitoxin.——The public schools of Lebanon were closed last month on account of an epidemic of scarlet fever.

County Society Meeting.—At the annual meeting of Cheshire County Medical Society, held in Keene October 13, the following officers were elected: President, Dr. Arthur A. Pratte, Keene; vice-president, Dr. Arthur W. Hopkins, West Swanzey; secretary-treasurer, Dr. William M. Robb, Keene; censor, Dr. Walton H. Aldrich, Marlboro; and delegate to the state society, Dr. Bayard T. Mousley, Alstead.

NEW JERSEY.

Leper in Camden.—Charles Clark, a 16-year-old negro boy, was isolated in the County Almshouse at Blackwood, Camden County, October 15, suffering with leprosy.

Personal.—Dr. Richard M. Davis has succeeded Dr. Henry Chavanne, resigned, as a member of the board of health of Salem.——Drs. Henry C. Power, James H. Lawrey, James H. Trainor, Edward W. Sprague, Edward F. Fitzpatrick, Samuel Hirschberg, Lazare Weiss, Pliny W. Barber, Albert S. Harden, Whitman B. W. Leyenberger and Mary E. Broadwax have resigned as district physicians of Newark.

September Vital Statistics.—The total number of deaths reported in the state for the month ended September 15, was 3,464, or more than 400 above the average for the previous twelve months. Infantile diarrhea caused 699 deaths; diseases of the nervous system, 385; tuberculosis, 331; diseases of the circulatory system, 315; diseases of the digestive system, 278; nephritis, 183; cancer, 134; and pneumonia, 103. Of the communicable diseases, typhoid fever caused 45 deaths; whooping cough, 38; diphtheria, 23; measles, 9; scarlet fever, 7.

NEW YORK.

Sanatorium Safe.—The forest fires reported around Stonywold Sanatorium, near Lake Kushaqua, are reported to be under control.

Want Municipal Hospital.—Dr. Julius Ullman, representing the Buffalo Academy of Medicine, and Dr. John D. Bonnar, representing the Erie County Medical Society, have petitioned the common council to make provision for a municipal hospital for contagious diseases. At present they claim there is accommodation in Buffalo for only 28 patients.

Impure Food Destroyed.—More than 22,000,000 pounds of foodstuffs, valued at $1,500,000, has been destroyed by the food inspectors of Greater New York within the past year. The greater part of the goods condemned consisted of fruits, vegetables and canned goods. It is said that there is not as much danger from impure foods under the present methods of inspection as formerly.

Communicable Diseases.—A number of cases of diphtheria are said to exist at Greatneck and Manhasset.——Nine cases of diphtheria were reported in the Kaplan school, Jamaica, October 15.——Only four cases of diphtheria occurred among the children in the Ottilie Orphan Asylum, Jamaica, owing to the prompt action of the house physician in reporting the matter to the board of health, and the action of the board in protecting the other children against the disease and fumigating the dormitory and different rooms of the institution.——During the first seventeen days of October, 114 cases of scarlet fever were reported to the health department of Buffalo.

Personal.—Dr. Benjamin W. Cornwell, Williamsville, who has been critically ill with typhoid fever, is reported to be improving.——Dr. Lewis J. Davis, Watertown, fell down a flight of stairs in a café October 5 and sustained a fracture of the base of the skull. His recovery is considered doubtful.——Drs. George L. Fischer, James F. Whitwell, Harry Mead, Nelson W. Bodenbender, Augustus W. Hengerer, George W. Seitz, Gustav A. Hitzel, Arthur G. Bennett, Martin J. Downey, Thomas H. McKee, Henry E. Stadlinger, David A. Morrison, Leonard Reu, Henry C. Buswell, Charles R. Cullinane, James P. Barr, Edward J. Meyer, Max C. Breuer, and Ray H. Johnson have been added to the staff of the German Deaconess Hospital, Buffalo.

New York City.

Gift to Hospital.—It was announced October 14, that James S. Kennedy, New York City, had given a million dollars to the Presbyterian Hospital, of which he is president, to be used in the construction of buildings.

Lower Death Rate.—The Health Department reports that the city death rate for the week ending October 17 was 12.20, as against 13.50 for the corresponding week of last year.

Tuberculosis Exhibit to Come.—The money necessary to bring the tuberculosis exhibit here from Washington has been appropriated to the board of health by the board of estimate. The corporation counsel decides that this exhibit is essential for the instruction of citizens in matters pertaining to health.

Smallpox at Patchogue.—Dr. Eugene Porter, State Health Commissioner, has been apprised of the smallpox epidemic at Patchogue, Long Island, and unless local authorities compel vaccination the state will interfere and place the town in quarantine. It is reported that there are thirty cases of smallpox, and the local authorities are powerless to enforce vaccination or quarantine.

Hotel Opens Surgical Ward.—The Waldorf-Astoria has opened the first emergency surgical hospital ever installed in a hotel in this city. Dr. Calvin T. Adams has been placed in charge of the room, which is fitted up in a thoroughly modern way. While the room is intended primarily for the guests in the hotel, it will be at the disposal of any ambulance surgeon called to the neighborhood who finds a patient needing immediate attention.

Personal.—Dr. William Seaman Bainbridge returned from Europe October 23.——Dr. John F. Erdmann has resigned as clinical professor of surgery at the New York University and Bellevue Hospital Medical School, and has been appointed professor of surgery in the New York Post-Graduate School and Hospital.——Dr. Mary M. Crawford, ambulance surgeon of the Williamsburg Hospital, has taken up her duties as assistant house physician in the institution.

Contagious Diseases.—There were reported to the sanitary bureau for the week ending October 17, 486 cases of tuberculosis, with 138 deaths; 311 cases of diphtheria, with 19 deaths; 119 cases of measles, with 2 deaths; 109 cases of scarlet fever, with 5 deaths; 105 cases of typhoid fever, with 23 deaths; 22 cases of whooping cough, with 5 deaths; 4 cases of cerebrospinal meningitis, with 7 deaths; 30 cases of varicella and 1 case of smallpox, a total of 1,187 cases and 199 deaths.

Hospitals Suffer from Insufficient Funds.—The report made by the visiting committee of the State Charities Aid Association, which has just been submitted to the board of estimates and the mayor, states that the failure of the municipal government to provide sufficient funds for the hospitals and public charities makes it impossible for these institutions to secure sufficient help, and that consequently the lives of the patients are endangered. Much of the help comes directly from the workhouse and these attendants are careless and even brutal. It is said that not even enough money for food is allowed.

An Attractive Program.—The New York Academy of Medicine devoted its meeting, October 29, to a lecture by Dr. Charles A. L. Reed, Cincinnati, on "The Character, Status and Economic Value of a National Department of Public Health." At the meeting of November 5, Dr. John C. Munro, Boston, will read a paper on the "Surgery of the Bile Passages with Special Reference to End Results." At the meeting of November 19, Major Charles Lynch, Medical Corps, U. S. Army, will deliver the anniversary address on "Medical Service in a Modern Army in War, as Exemplified by the Japanese Army in the Russo-Japanese War."

Psychic Clinic Opened.—Cornell University Medical College has established what is said to be the first psychotherapy clinic ever established in this city in connection with a professional school. It is modelled after the one established two years ago at Johns Hopkins University, and is in charge of Drs. Leslie Meacham and Beatrice M. Hinkle. The treatment is based on the ability of the physician to reach the subjective mind of the person to whom he administers. The work endeavors to help people with mild delusions, acute melancholia, victims of drink and drug habits. Those having violent obsessions are not considered.

St. Luke's Hospital Anniversary.—At the fifteenth anniversary of the officers of St. Luke's Hospital, plans for the introduction of new features into the hospital work were discussed. It was shown that the patients remained in the hospital on an average longer than in most hospitals, and yet that there was great need of a convalescent home. The value of social work among patients of small means who required some medical attention and yet were not in need of hospital accommodations was emphasized and a plea for funds to carry on such a work was made. The legacies received during the year amounted to $300,000. During the year 863 patients were treated, 71 per cent. of whom were free patients. The present accommodations provide for 300 patients, but when the buildings are completed there will be accommodated 600 patients. At present two wards are closed because of lack of funds.

Harvey Society Lectures.—The fourth course of lectures of the Harvey Society, under the patronage of the New York Academy of Medicine, commenced October 24, when Prof. A. Calmette, director of the Institut Pasteur de Lille, *France*, delivered a lecture on "Intestinal Infection *and Immunity in* Tuberculosis." The following lectures will complete the course:

November 7.—Prof. W. G. MacCallum, *Johns Hopkins University*, "Fever."

November 21.—Prof. Graham Lusk, University and Bellevue Hospital Medical College, "Metabolism in Diabetes."

November 28.—Dr. Wilhelm Falta, University of *Vienna*, "*Therapeutics* of Diabetes."

December 5.—Dr. M. J. Rosenau *and* Dr. *John F. Anderson*, U. S. Public Health and Marine-Hospital Service, "Anaphylaxis."

December 19.—Prof. A. B. MacCallum, University *of Toronto*, "Osmosis."

Jan. 9, 1909.—Prof. J. B. Leathes, The Lister Institute of Preventive Medicine, England, "The Relation of the Liver to the Metabolism of Fat."

February 6.—Prof. Philip Hanson Hiss, Columbia University, "Some Problems in Immunity and the Treatment of Infectious Diseases."

March 6.—Prof. C. B. Davenport, Station for Experimental Evolution, Cold Spring Harbor, "Heredity in Man."

PENNSYLVANIA.

Personal.—*Dr.* William *D.* Ballinger, Lancaster, is seriously ill at his home as a result of a fall.——Dr. George A. Ickes, Altoona, is seriously ill with typhoid fever.——Drs. Julius H. Comroe, York, and Austin L. Hauslohner, Wilkes-Barre, have returned from Europe.

Contagious Diseases.—Scarlet fever is epidemic in Freeland and 80 cases have been reported recently to the board of health. Two new cases of smallpox were reported to the State Board of Health October 20, one from West Fairview and the other form Lebanon county.

Cocain Gang Broken Up.—Through the arrest of Clinton McAllister, Easton, 19 years old, the authorities believe they have captured the ring-leaders of "cocain sniffers" in that city. McAllister is said to have been selling the drug to young men and was arrested for stealing two bottles of cocain from a local drug store.

Officers Elected.—At the fifth annual meeting of the Seventeenth Censorial District Medical Society, held in Danville, September 4, the following officers were elected: President, Dr. *Phillip C. Newbaker, Danville, and* secretary, *Dr. Luther B.* Kline, Catawissa. All the counties making up the district, namely, Snider, Northumberland, Montour and Columbia, were represented. *In response to an invitation tendered* by the Northumberland County Medical Society, the association will meet *in* Sunbury *in* 1909.

Compulsory Vaccination Condemned.—*Dr. Nathan* C. Schaeffer, state superintendent of public instruction, in his annual report, submitted October 14, claims that conflicts between the provisions of the compulsory *education* and vaccination laws of the state keep thousands of children out of the public schools and that the hopes of those who endeavor to make vaccination general, *have not come to pass.* Ministers and Sunday school officers permit unvaccinated children to go to Sunday school and are therefore as much lawbreakers as the school officials who allow children to attend sessions when they can not produce certificates. He said that Dr. Samuel G. Dixon had ascertained that in 9,851 schools inspected there were 50,817 unvaccinated children in attendance. The total number of schools in this state is 33,171. These figures show that the hopes of those who framed the law excluding unvaccinated children from schools have not been realized. Legislation, which, through no fault of their own, makes children lawbreakers for the sake of *getting an* education, is very far from satisfactory. The dissemination of anti-vaccination literature is daily increasing the difficulties by which the schools are confronted and that fully 60 per cent. of all the letters sent to the educational commission bear on vaccination. The statistical portion of the report shows that there are 2,580 school districts in the state, 33,171 schools, 7,488 male teachers, 26,525 female teachers, 1,231,200 pupils, an increase of 6,812. The average number of pupils in daily attendance last year was 951,670.

Philadelphia.

Hospital Reports.—The report of St. Agnes Hospital for September shows that 190 patients were admitted to the institution.——The report of Mount Sinai *Hospital* for September shows that 60 patients were admitted to the house and that 1527 new patients were treated in the dispensary. The total visits to the out-patient department aggregated 428.

Health Report.—The total number of deaths reported to the Bureau of Health for the week ended October 24 reached 431, including 218 males and 213 females. This is an increase of 33 over the previous week, and an increase of 37 over the corresponding week of last year. The principal causes of death were: Typhoid fever, 7; scarlet fever, 6; pertussis, 3; diphtheria, 19; consumption, 63; cancer, 36; diabetes, 4; apoplexy, 14; heart disease, 40; acute respiratory disease, 47; enteritis, 42; hepatic cirrhosis, 6; appendicitis, 4; nephritis, 27; premature birth, 9; congenital debility, 6; senility, 9; suicide, 3; accidents, 10, and marasmus, 5. There were 200 cases of contagious disease reported with 32 deaths, as compared with 145 cases and 19 deaths reported in the previous week. Diphtheria heads the list with 104 cases *and 19 deaths.——For* the week ending October 17 there were 398 deaths, a decrease of 4 from the previous week and a decrease of 45 from the corresponding week last year. The principal causes of death were: Typhoid fever, 9; scarlet fever, 4; pertussis, 4; diphtheria, 6; consumption, 37; cancer, 18; diabetes, 5; apoplexy, 15; heart disease, 45; arteritis, 6; acute respiratory disease, 37; enteritis, 22; hepatic cirrhosis, 6; Bright's disease, 22; appendicitis, 4; congenital debility, 10; premature birth, 8; senility, 7; suicide, 6; accidents, 16; marasmus, 4. The death list included 207 males and 191 females. There were 145 *cases of contagious disease* reported with 19 deaths, as compared with 143 cases and 18 deaths reported in the previous week.

VERMONT.

Personal.—Dr. Alheric H. Bellerose, Rutland, has returned *from Europe.——The house of Dr. Timothy G. Simpson,* West Fairlee, was destroyed in a fire which burned the greater portion of the business section of the town. Dr. Simpson's loss is $2,000.

Vital Statistics.—The biennial report of the State Board of Health shows that in 1907 there were 7,981 births reported as compared with 7,881 in 1906; and 6,131 deaths as compared with 6,241 in 1906, the respective death rates per 1,000 being 16.27 and 17.93.

County Society Meets.—At the annual meeting of Washington County Medical Society, held in Barre, September 1, the following officers were elected: President, Dr. Michael F. McGuire, Montpelier; vice-president, Dr. Orlando G. Stickney, Barre; Alanson C. Bailey, Randolph; Myron L. Chandler, Dr. Louis A. Rushlow, Randolph; censors; Drs. Elliot B. Watson, Williamstown, and Joseph W. Jackson, Barre; and delegates to the state medical society, Drs. Orlando G. Stickney, Barre; Alanson C. Bailey, Randolph; Myron L. Chandler, Barre; and Edwin A. Colton, Montpelier.

State Society Meeting.—At the ninety-fifth annual meeting of the Vermont State Medical Society, held in Rutland, October 22 *and* 23, *the following officers* were elected: President, Dr. Charles W. Peck, Brandon; vice-president, Dr. Schuyler W. Hammond, Rutland; secretary, Dr. Clarence H. Beecher, Burlington (re-elected); treasurer, Dr. Bingham H. Stone, Burlington (re-elected); auditor, Dr. John H. Blodgett, Saxton's River (re-elected); and delegate to the American Medical Association, Dr. James N. Jenne, Burlington. The society took action against any member making a practice of doing work for a *fraternal society or corporation* below that charged for private services.

VIRGINIA.

Medical Colleges Open.—The Medical College of Virginia and the University College of *Medicine, Richmond,* opened for their annual session September 15.

Scarlet Fever.—The public school of St. Luke near Woodstock, was closed October 19, because of the prevalence of scarlet fever. A number of cases of the disease are said to be present at Saumsville.

Infectious Diseases.—During September there were reported to the medical inspector of Richmond, 66 cases of typhoid fever, 25 cases of diphtheria, 2 cases of whooping *cough,* and 1 case each of scarlet fever, chickenpox and *mumps.*

Epileptic Colony.—The Retail Merchants' Association, Lynchburg, has taken steps to secure the establishment of the proposed epileptic colony in Amherst County near Lynchburg, for which an appropriation for *more than* $40,000 has been made.

Personal.—Dr. Harry T. Marshall has returned from Manila and assumed charge of the department of pathology and bacteriology at the University of Virginia.——*Dr. Carl* Meloy has been appointed adjunct professor of pathology at the University.——Dr. James D. Riddick has commenced his third term as mayor of Norfolk, and Dr. Southgate Leigh has been elected president of the common council.——Dr. John W. Ayler has been elected secretary of the Newport News Board of Health.——Dr. Robert T. McNair, Emporia, has been appointed city health officer.——Dr. Lomax Gwathmey, Norfolk, has recovered from a surgical operation, recently performed, and has returned to his home.——Drs. H. C. Maddux, Orange, T. B. Henderson, Wakefield, Philip S. Evans, and H. Norton Mason have been appointed members of the resident staff of Memorial Hospital, Richmond.——Dr. Robert S. Spillman, Norfolk, has been commissioned as captain and assistant surgeon, N. G. Va., and assigned to the Fourth Infantry.——Dr. Albert S. Priddy, Marion, is seriously ill with typhoid fever in Memorial Hospital, Richmond.

WASHINGTON.

Health Commissioners Organize.—Health officers and prominent members of the health departments of Tacoma, Spokane and Seattle met September 19, in Tacoma, and effected preliminary organization of the Health Officers Association of Washington. A committee, of which Dr. Elmer E. Heg, Seattle, is chairman, was appointed to draft a constitution and by-laws.

Rat Trappers.—The rat trappers employed by the health and sanitary department of Seattle report that in September 2,044 rats were captured, on which bounty was paid, and that the trappers in King County brought in 2,589 rats, making a total of 5,633. During the month, 21,452 traps were set; the poison squad used 905 pounds of bait and placed poison at 10,567 places.

Personal.—Dr. John Hunt, assistant medical inspector of Seattle, has resigned, and Dr. R. A. VanVorst has been appointed in his stead.——Dr. H. Eugene Allen, Seattle, has been appointed division surgeon of the Chicago, Milwaukee and St. Paul Railway, from the coast to the Columbia River.——Dr. William N. Keller, Tacoma, has been appointed local surgeon for the Chicago, Milwaukee and St. Paul Railway.——Dr. William A. Shannon, Seattle, has returned from Europe.——Dr. Spiro Sargentitch, health commissioner of Tacoma, has resigned and has started for Europe, and Dr. James R. Yokum has been nominated as his successor.——Dr. Christen Quevil and family, Tacoma, have started for Europe.

WISCONSIN.

College Opens.—The Wisconsin College of Physicians and Surgeons opened for its sixteenth annual session October 6. Dr. Emerson A. Fletcher delivered the opening address.

Diphtheria and Typhoid Fever.—Diphtheria is reported to be epidemic in Manitowoc.——Typhoid fever is said to be very prevalent in Kenosha, where more than 20 cases were reported last week.——A large number of cases of typhoid fever are reported in Sheboygan.

Personal.—Drs. F. L. Parsons, L. H. Novak and B. Novashelsky, internes at St. Mary's Hospital, Milwaukee, have resigned.——Dr. Thomas G. Walsh, Milwaukee, is reported to be critically ill with nephritis.——Great damage was done to the residence of Dr. Isaac N. Cohen, La Crosse, by fire, September 23.

Addition to Sanatorium.—An addition to cost $7,000 and accommodate twelve patients is to be added to Blue Mound Sanatorium through the generosity of Mr. Berthold Weinhagen, Milwaukee, who recently gave $3,000 to the sanatorium to be used for the construction of a building for boys suffering from tuberculosis.

GENERAL NEWS AND COMMENTS.

Coming Meeting.—The tenth annual meeting of the Ohio Valley Medical Association will be held at French Lick, Ind., November 11 and 12, under the presidency of Dr. J. Leaming Wiggins, East St. Louis, Ill. The annual address will be delivered in the evening of the first day by Dr. G. Frank Lydston, Chicago, on "The Psychology of Graft."

Railway Surgeons Meet.—At the fifth annual meeting of the American Association of Railway Surgeons, held in Chicago, October 14, 15 and 16, the following officers were elected: President, Dr. Joseph R. Hollowbush, Rock Island, Ill.; vice-presidents, Drs. Benjamin Thompson, Tama, Iowa, G. W. Thompson, Winamac, Ind., and Oscar LeSeure, Detroit, Mich.; secretary-treasurer, Dr. Henry B. Jennings, Council Bluffs, Iowa, and editor, Dr. Louis J. Mitchell, Chicago.

Cholera in the Philippines.—The public health reports from Manila under date of September 2, show that for the week ended August 29, 20 cases of cholera were reported in the city, with 16 deaths. In the provinces during the same week 1,103 cases were reported, with 686 deaths. Press telegrams under date of October 25, from Manila, state that for the week ended on that day, 7 new cases of cholera were reported in Manila, the increase in number being ascribed by the authorities to the gatherings of the people on the streets Saturday nights and Sundays, at feasts and cock-fights.

Warning Concerning Apparatus Salesman.—The Scheidel-Western X-Ray Coil Company, Chicago, states that a former salesman of theirs, G. W. Wells, is imposing on physicians in Texas and other parts of the South. The company states that he no longer represents them in any capacity, but that he has borrowed money from physicians in the company's name and has not repaid it. Mr. D. L. Hensell, Greenville, sheriff of Hunt County, Texas, also writes to The Journal that he holds a capias for this G. W. Wells, for swindling, and that he will appreciate prompt notification of Wells' whereabouts.

Alaska-Yukon-Pacific Exposition.—During this exposition to be held in Seattle in 1909, the following exhibits illustrating modern appliances and methods of treatment and the value of sanitary laws and practical hygiene will be made by the Public Health and Marine-Hospital Service. The surgical section will consist of a model operating room, showing a surgical operation in progress, with sterilizers, surgical armamentarium and other appurtenances. The laboratory section will contain various apparatus used in the hygienic laboratory in the solution of public health problems. The hospital section will comprise a record room and a model ward. The tuberculosis exhibit will consist of a model of the sanatorium of the Service at Fort Stanton, N. M. The quarantine section will include a model detention camp intended for use in time of epidemic, a model quarantine station and disinfecting machinery. The *x*-ray section will be installed in a room constructed for the purpose. Two modern coils are to be shown, including *x*-ray tubes and fluoroscopes, high-frequency apparatus and various accessories.

Insects as Disease Carriers.—Dr. L. O. Howard, chief of the Bureau of Entomology, Department of Agriculture, writes in commendation of our editorial of August 22, on "The National Farm Commission and Rural Sanitation," and encloses two pamphlets which show what his bureau has been doing in this direction. The first, Farmers' Bulletin 155, entitled, "How Insects Affect Health in Rural Districts," which has been in print for seven years, and of which many thousands of copies have been sent out to farmers, is a plain account of the agency of mosquitoes in the spread of malaria and of house flies in propagating typhoid, with instructions as to the best methods of destroying and preventing the multiplication of these insects. The other pamphlet, Circular 71, on the house fly, describes the various flies which infest the house and gives the proper method of prevention. Both pamphlets are eminently practical in their treatment of the subject and deserve to be more widely distributed and more carefully studied, not only by the people of the rural districts, but also by those of all other communities where these pests are still found.

CANADA.

Aid to Fight Tuberculosis in Montreal.—On his return from the Washington conference where he met Mr. Henry Phipps, founder of the Tuberculosis Institute, Philadelphia, and as a direct result of conversations with that gentleman and personal investigations, Lieut.-Col. Burland of Montreal has donated $50,000 to the Montreal League for the Prevention and Treatment of Tuberculosis. In the heart of Montreal, Colonel Burland has presented a building for dispensary purposes and the donation of $50,000 is given on the condition that the league raises an endowment of a similar amount. In addition to a day dispensary the institution will have about 20 beds for emergency cases, also wide verandas, sun parlors, and a roof garden. The building is to be a memorial to the father and mother of the donor.

British Columbia Campaign Against Tuberculosis.—British Columbia is to teach its school teachers and school children as to the modern methods of combating tuberculosis. Two pamphlets have been recently issued and distributed broadcast throughout the province. The government of British Columbia is displaying an enterprise unequalled in any other province in the Dominion. The pamphlet for the children is written in juvenile style, intelligible by them, and highly instructive. Along with the advice to the children are two dozen "Don'ts." The statistics as regards tuberculosis in Canada are set out in these words: "In Canada, statistics show that 8,000 lives are annually sacrificed from this preventable cause. That, at a very low estimate, at least 40,000 individuals, annually, become infected with the disease. That the consequent economic loss to the state, by these deaths, is $48,000,000; and the further loss, through reduced productiveness of the infected, is $24,000,000; making a grand total annual loss to the finances of the country of no less than $72,000,000."

New Provincial Medical Association.—The Manitoba Medical Association was organized at Winnipeg October 8. About 200 members of the association were present at a dinner on that evening, at which Dr. H. H. Chown, Winnipeg, delivered a stirring address on "The Necessity of Greater Effort on the Part of the Medical Profession to Combat the Encroachments of Tuberculosis." He emphasized the necessity of a greater effort on the part of the profession in Manitoba to combat the encroachments of tuberculosis, and strongly criticised the provincial authorities for their dilatoriness in establishing a sanatorium. Manitoba, he said, was to-day one of the most backward portions of the civilized globe in the fight against consumption. Dr. Gordon Bell of the Manitoba Medical College detailed the history of the movement for a sanatorium in the province, and explained the reason why progress in securing the institution had been so restricted. The following officers were elected: President, Dr. James R. Jones, Winnipeg; vice-presidents, Drs. John A. Macdonald, Brandon, and Dr. James R. McRae, Neepawa; honorary secretary, Dr. Jasper Halpenny, Winnipeg; honorary treasurer, Dr. Kenny, Winnipeg; executive committee, Drs. Harvey E. Hicks, Griswold; Daniel G. Ross, Selkirk; F. S. Keele, Portage la Prairie; Harry M. Speechly, Pilot Mound; and William J. Harrington, Dauphin; and auditors, Drs. Robert J. Blanchard and Arthur W. Moody, Winnipeg. The majority of physicians of standing throughout the province have registered as members or have signified their intention of so doing.

Insane in Ontario.—A pamphlet has been recently issued by the Ontario government on the insane in Ontario, immigration and deportation of defectives and statistics relating thereto. On Dec. 31, 1907, there were in the Ontario hospitals for the insane, exclusive of a private institution at Guelph, 5,315 insane persons and 775 idiots and feeble-minded. The males were 2,931; females, 3,159. The net increase for the year was 118. The revenue collected from the paying patients during the year amounted to $166,419.63. The daily average number of patients in the provincial hospitals during the year was 6,053; the total number of admissions, 1,162, of which number 262 were admitted to the Toronto Hospital; the total number of discharges during the year was 537; discharged recovered, 312; improved, 177; unimproved, 48. On May 1 a new hospital was completed at Penetang with accommodation for 120 patients. An important change will come into effect by the first of the year whereby the infirmaries at the London and Hamilton institutions will be set apart for the segregation and treatment of acute cases of insanity where complete hydrotherapeutic and hot air equipments will be installed. In the other hospitals, wards are being set apart foi the treatment of acute cases. In the Ontario hospitals for the insane there are approximately 196 tubercular cases, 76 male and the balance female. In most of the hospitals special efforts are made to segregate these cases. At the Hamilton Hospital a separate building is in course of construction for them. It will accommodate 10 male and 10 female patients. In 1906, 19 persons were deported. During 1907, 87 were deported, representing a saving to the province of about $350,000. At least 25 have been sent back to their native countries up to the present time this year. Dr. C. K. Clarke of the Toronto Hospital states in his report that of the 262 persons admitted in 1907, less than half were Canadians.

FOREIGN.

Spanish Antituberculosis Congress.—The first tuberculosis congress held in Spain convened at Saragossa early in October, with a brilliant assemblage of authorities on hygiene and preventive medicine. The meetings were held in the opera house, the prime minister presiding; they were marked with great enthusiasm. The *Siglo Medico* is publishing the transactions in detail.

First International Congress of Urology.—The international Urologic Association was founded to combine anatomists, physiologists, physicians, surgeons and chemists for cooperation in the study of a single organ, hoping to unite those who can throw light on the pathologic problems of the urinary apparatus. The restriction of membership and of the discussions to certain themes given out long in advance has confirmed anew the wisdom of this plan, also adopted by the International Surgical Congress. The Urologic Congress was held at Paris, September 30 to October 4, with Albarran, Posner and Watson of Boston, as presiding officers, and 150 members in attendance. Each address had been published and was in the hands of the members, with a summary in four languages, and the discussions commenced at once, as the author merely read the summary. The next congress will be held three years from now, in London, and the subjects appointed for discussion are: "Resection of the Bladder"; "Prostatectomy," and "Phosphaturia and Oxaluria." The officers elected to preside at the next congress are Fenwick of London, Koranyi of Budapest and Pousson of Bordeaux. The questions discussed at the recent meeting were: "Pathogenesis and Treatment of Anuria"; "Retention in the Bladder without Mechanical Obstacle"; "Normal and Pathologic Physiology of the Prostate," and "Operative Indications in Tuberculosis of the Kidneys." The common study of physiology of the prostate has provided a groundwork for fruitful discussion of prostatectomy at the next meeting of the congress. The possibility of nervous inhibition of bladder functioning was sustained by Albarran and others as explaining many cases of vesical retention, even when there is likewise slight mechanical obstruction, as the retention is liable to persist after removal of the obstruction. Bazy has observed cases in which the retention was the result of autosuggestion, and could be cured by countersuggestion. Frank cited cases of voluntary, practically professional retention. Retention from polyuria is liable also to cause nervous inhibition. In regard to anuria, the consensus of opinion seemed to be that much further study is required from both physicians and surgeons to determine better the indications for operative treatment or abstention. Achard, in his review of the congress in the *Semaine Médicale*, quotes one of the members as saying that the results of operative treatment of anuria to date have "poured a little water in the wine of the surgeons." Early nephrectomy, on the other hand, was generally recognized as the only effectual treatment of tuberculosis of the kidneys, Desnos remarking that it is "always too late for an operation for a cancer in the kidney, but never too late in case of renal tuberculosis." The physicians present sustained the surgical view of renal tuberculosis—an important outcome of the deliberations of the congress.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, *Oct. 17, 1908.*

Cancer Research.

The "Third Scientific Report" of the investigations of the Imperial Cancer Research Fund has just been issued by Dr. Bashford, general superintendent of the work and director of the laboratory. It is a record of a vast amount of patient experiment and observations. The first report of the Fund was published in the spring of 1904, the second a year later; so that the present volume is the outcome of more than three years' silence, during which work has been continuously conducted in the laboratories. The nature of the connection between the irritation and the disease has received much attention from the investigators acting for the fund. A wide study of cases of cancer has shown that the hypothesis of a congenital or embryonic origin of cancer is incorrect. Thus cancer of the skin of the abdomen is practically unknown in Europe, but common in Kashmir. This is not due to any special presence of embryonic germs in the skin of the abdomen of the Kashmiris, but to its irritation by wearing a charcoal oven around the waist. Again, cancer of the floor of the mouth is rare in European women, although not uncommon in men; but in India women suffer from it in high degree. The difference is due to the fact that Indian women chew betel nut and sleep with the plug in the cheek at the exact spot where cancer starts. In needle-women melanotic sarcoma often develops in the fingers at the site of frequent puncturing by the sewing needle. Belief in the congenital origin being abandoned, the question of heredity is discussed. The most recent returns of the registrar-general show that in 1906 out of a total of 141,241 deaths of males above the age of 35, 12,695 were due to cancer, and that out of a total of 140,607 similar deaths of females, 17,671 were due to cancer. The duration of human life and the small number of descendants from each pair render a trustworthy statistical inquiry in man impossible at present. But this difficulty can be obviated in short-lived animals. In the mouse the question is in a fair way of being settled by means of breeding and inbreeding experiments on a large scale. As yet no evidence has been obtained that cancer has been increased by in-breeding, and the hypothesis of special inherited liability, although not disproved, is much weakened.

A Municipal Sanatorium for Consumption.

The first municipal sanatorium for consumption in England has been opened by the lord mayor of Birmingham. It is situated on the side of the Cotswold Hills, 3 miles from Cheltenham. Some time ago the Birmingham city council purchased an estate for $85,000 and built on it 40 chalets and two blocks to accommodate 40 patients at a cost of $36,000. The site is 800 feet above the sea level, is well sheltered and has an area of 30 acres. It is estimated that there are in Birmingham about 2,000 persons suffering from tuberculosis of the lungs, of which a large number are too far advanced to benefit by treatment. Assuming that all the beds are occupied, the annual cost of maintenance of the sanatorium will be $15,000, or $7.50 a bed weekly, exclusive of interest and sinking fund charges.

Admission of Women to the Royal College of Surgeons.

The long struggle of women for admission to the Royal College of Surgeons has at last been crowned with success. As stated in a previous letter to The Journal, a poll was taken of the fellows and members of the college on the question of admission of women. A majority of the fellows voted in favor of admission and a majority of the members against it, and there was a small majority of the total against admission. The Council has now decided, however, to admit women both to the membership and the fellowship examinations.

PARIS LETTER.

(From Our Regular Correspondent.)

Paris, France, Oct. 8, 1908.

Military Service and Erroneous Diagnoses of Heart Disease.

The Academy of Medicine opened day before yesterday with a communication from Dr. Huchard on erroneous diagnoses of heart disease and their consequences on the recruiting of the military service. Before the councils of revision the least palpitations of nervous or gastric origin, intermittent heart action, or smokers' pseudo-angina pectoris, and extracardiac murmurs are invoked as reasons for exemption from military service. These are often only temporary affections. They are particularly frequent among young people of fifteen or twenty years. There is a tendency to attribute to hypertrophy of the heart what really is merely an underdevelopment of the thoracic cavity compared with the heart. Without reflecting on the competence of our military physicians, Dr. Huchard says that for lack of the time, the quiet and even of the instruments necessary to examine each individual, they are unable to make delicate diagnoses. Thus, to the injury of the service, many young men are invalided for heart disease when they really have no lesion. Sometimes, moreover, such errors may do an injury to the subject of examination himself, as in the cases of a student at the military school at St. Cyr and an officer of engineers whose careers were checked by diagnoses of heart disease which were afterward shown to be erroneous.

Dr. Huchard concludes that, in place of invaliding finally offhand in cases of suspected hearts, it would be preferable to grant a respite to such patients and to submit them to reexamination every three years, for example, until the age of 45.

Yellow Fever in a French Port.

Yellow fever has been declared at Saint-Nazaire. It was brought by the packet *La France*, which arrived on September 26 from the Antilles. The packet had touched on September 10 at Fort-de-France, where yellow fever was raging. Nevertheless, it was admitted to free pratique (privileges of the port) without any precautions. Eight persons have been stricken; three have succumbed and two are dying. The population is much incensed against the sanitary officers who admitted the packet to the port.

A Future Museum of the Public Charities.

The hospitals of Paris and the various establishments which belong to the public charities (the central pharmacy, the central storehouse, etc.) contain a great number of works of art, furniture, pictures, curiosities, old pieces of artistic faience, which are at present scattered about almost everywhere, but which would be interesting if assembled in some place accessible to the public. The present director of the "Assistance Publique," M. Mesureur, is engaged in organizing a museum of this nature. It is intended, moreover, to join to it a library, for the archives contain magnificent collections, comprising some very valuable illuminated parchments.

BERLIN LETTER.

(From Our Regular Correspondent.)

Berlin, Oct. 1, 1908.

Organization of the Medical Profession in Germany.

The medical councils in the other German states differ in some respects from those of Prussia, described in my letter in The Journal [October 10, page 1246.] In some of the federated states there was too much opposition to the organization of courts of honor, and none has been established in Würtemberg, Hesse, Bavaria, Hamburg and Elsass-Lothringen, while Saxony, Baden, Oldenburg, Anhalt, Braunschweig, Schaumburg and Lübeck possess them. None of the other German states has as yet this official organization of the profession in medical councils and courts of honor.

Private Organization of the Profession.

Besides the above public organizations, there are throughout the empire what are called medical professional unions "Standesvereine," each one organized in its own way like any private society. These organizations have united to form smaller or larger associations; thus in Berlin there are two large societies of this kind, the Berlin Medical Standesverein and the Berlin Medical Vereins-Bund. There are similar combinations in the various states, in Hesse, for instance, the National Medical Landesverein, etc.

THE "AERZTEVEREINSBUND."

Almost all the public and private organizations are united in the national German Medical Association, the "Aerztevereinsbund," which was organized in 1873 and now comprises 386 societies with about 23,000 members, thus including nearly all the physicians of Germany. This national "Aerztevereinsbund" w[illegible] to its statutes—for the purpose of [illegible] and private medical associations for mutual encouragement and organized action in the field of the scientific, practical and social relations of the medical profession. It is governed by a board of managers who appoint their own president. This year the president is Professor Löbker of Bochum. The Aerztevereinsbund meets once every year and then takes up business previously arranged.

THE LEIPSIC LEAGUE.

Still another national association was organized a few years ago to promote the material interests of the profession. It is popularly called the "Leipsic League," as its headquarters are at Leipsic. Its president is its founder, Dr. Hartmann of Leipsic, and it has now about 21,000 physicians enrolled. The aim of this society is to link together the German physicians for improvement of their economic condition, and especially to support such colleagues as have suffered, or, it is to be feared, will suffer, material loss in defending the interests of the profession against the *Krankenkassen* and similar corporations for insurance against sickness. The importance of this league in the conflicts constantly arising in relation to contract practice, has been frequently mentioned in The Journal. Its official title is the "Verband der Aerzte Deutschlands zur Wahrung ihrer wirthschaftlichen Interessen."

VIENNA LETTER.

(From Our Regular Correspondent.)

Vienna, Oct. 14, 1908.

Health of Vienna.

In spite of the unsettled weather of the summer months, the health of Vienna was exceptionally good; in fact, the best since records have been kept (1857). While the normal mortality for summer has been calculated at 17.4 per thousand, the figure has considerably decreased for 24 years, since the new waterworks and drainage have been completed. This summer beats all preceding years, with a mortality of only 13.8 per thousand. The morbidity as well was markedly lower than at any time before. There were only 3,090 cases of infectious diseases recorded during the three months of July, August and September, with an estimated population of 2,025,000. Diphtheria and cholera infantum were a little more frequent but the epidemics were mild. Asiatic cholera has hitherto been warded off in spite of the intimate commercial relations between Russia and Vienna. There were only 20 days free from rain during the 92 summer days, and only 280 hours of sunshine, while the mean temperature was too low by 3 C. (5.4 F.). One would have expected to find the health, under these repeatedly unfavorable weather conditions, at least as bad as at any preceding corresponding period, if not worse. But it seems that other factors, intelligence of the population, sanitary precautions, etc., must be taken more into consideration than hitherto has been done.

Pharmacology

BLENZ'S REMEDY.

A New Modification of an Old Trick.

Reaching the "patent-medicine"-taking public via the family physician has long been a classic procedure on the part of the nostrum manufacturer; reaching the laity through the officially appointed officers of health is the latest modification or extension of the older dodge. In a "form" letter addressed "To County Physicians," Blenz & Co., of Decatur, Illinois, "take the liberty to address you in reference to our Remedy," which "checks all diseases and all tendency to disease and returns the person to perfect health."

Here are a few of the pathologic conditions in which Blenz's Remedy is declared to be indicated:

Blood Poison.
Asthma.
Fevers, all kinds.
Dyspepsia.
Catarrh.
Neuralgia.
Syphilis.
Gonorrhea.
Coughs, Colds.
Kidney Disorders.
Rheumatism.
Women's Diseases.
Cancer.
Piles.
Pneumonia.
Tuberculosis.
Smallpox.
Malaria.

To head off any purchaser, however, who might feel that he was not getting his money's worth, we are told that "Blenz's Remedy not only moves (sic) the diseases mentioned in this circular, but all others incidentally thereto." Surely a valuable preparation to keep around the house. Should you be suffering from palpitation, paralysis or piles "take 5 or 10 grains after each meal" of Blenz's Remedy. "After the relief is obtained continue using for ten days so as to move every germ from the system." When the last germ has regretfully taken its departure, you may feel safe—but not before, because "the germs entering the system through the stomach are the shifters of life," and no one is desirous of having such an essential thing as life shifted. In fact, as Blenz tells us, "every person desires to look as well as they can"—a sentiment whose principle is as sound as its expression is grammatically unstable.

Without having given the "remedy" a clinical trial, but basing our conclusions purely on the description and claims so picturesquely set forth in the advertising, we may concede its potency in at least one condition. At $10.00 a pound—the price asked—it seems beyond dispute that in the administration of this remedy the congested condition of a plethoric pocket-book would find immediate relief.

In a burst of rhetorical imagery and mixed metaphor, we are told that "the Body is the Theater of Disease where the drama of Life is actually played." From the pamphlet furnished, we gather that this theater is under the exclusive management of Blenz & Co., who furnish the interior decoration—for a consideration. Whether or not life is a drama is open to question; when we think of the business which this firm is engaged in, we incline to the belief that existence approaches farce-comedy, in which the physician plays the part of the unsophisticated ruralite and the nostrum exploiters assume the rôle of the "green-goods" man.

PHARMACOPEIA TRUSTEES MEET.

A meeting of the Board of Trustees of the United States Pharmacopeial Convention was held at Hot Springs during the 1908 meeting of the American Pharmaceutical Association.

It was announced that the United States Public Health and Marine-Hospital Service will issue bulletins of comments on the Pharmacopeia. M. I. Wilbert, Philadelphia, and M. G. Motter, Washington, have been appointed technical assistants in the Pharmacological Division of the Hygienic Laboratory and will take this work up, beginning October 1. A vote of thanks was tendered Surgeon-General Wyman for this action and it was decided to discontinue the preparation of a digest of comments under the Committee of Revision. Joseph P Remington was made a committee of one to prepare for the council of the American Pharmaceutical Association a set of resolutions relative to the above mentioned work by the Marine-Hospital Service. It was decided to secure authentic data under official seal as to the date of incorporation of the several organizations and institutions entitled to representation in the United States Pharmacopeia Convention of 1910. Chairman J. P. Remington, of the Revision Committee, submitted page proofs of the Spanish translation of the Pharmacopeia. The retail price was fixed at $5.00 for the cloth-bound volume.

THE NATIONAL FORMULARY.

The American Phamaceutical Association has a standing committee on the National Formulary which supervises the compilation of this valuable work. This committee reports that it is actively engaged in revising the book and that efforts are being made to raise the standard. Several of the general recommendations made by the committee of the American Pharmaceutical Association are indicative of this. They are, in brief, as follows:

Titles and synonyms of substances not official should conform to modern ideas of chemistry.

Titles should be descriptive of the true composition of the preparations.

The introduction of therapeutic or anatomic names should be prohibited in future, and the present therapeutic titles in the National Formulary should be eliminated so far as is practical.

Trademark names should not be introduced among the titles.

While the general tenor of the committee's report indicates that the forthcoming book will be a vast improvement over the present one, it is also evident that the committee is inclined to include any formula which it thinks physicians would want. It is to be hoped, therefore, that during the coming year medical societies and individual physicians will interest themselves in this matter and indicate their disapproval of the inclusion of worthless and unscientific mixtures, which often are poor imitations of worthless proprietaries. The present book contains formulas of the shot-gun variety that should no longer have recognition. The inclusion of these formulas in the past may be excused because they were offered as substitutes for the secret and semi-secret proprietaries so much used by many physicians. But a change has taken place; fewer of these nostrums are used by physicians and this should be recognized. There is no longer excuse for such formulas in a book so important as the National Formulary.

SULPHITE IN ADNEPHRIN SOLUTION (STEARNS).

Report of the Council on Pharmacy and Chemistry of the American Medical Association.

The following report was presented to the Council by a subcommittee:

The various commercial brands of suprarenal alkaloid differ from each other (1) in the proportion of active principle, (2) in the nature of the acid with which the alkaloid is combined, and (3) in the nature of the substance which is added to retard oxidation, and consequent deterioration, of the solution. While the relative physiologic activity of the preparations is doubtless the most essential point of difference, the nature of the preservative may, under special conditions, also be important, and should be known by the physician, and therefore should be stated by the manufacturers.

There are four suprarenal preparations prominently before the profession of this country, all of which have been accepted by the Council on Pharmacy and Chemistry. Two of these are said by their manufacturers to contain sulphite; the other two are presumed not to contain this preservative, as there is nothing to indicate it either on the label or elsewhere. It being reported to the Council that one—Adnephrin Solution (Stearns)—of the latter two contained sulphite, the Association's laboratory was requested to examine this preparation to determine the matter.

The report from the laboratory, which follows this report, shows that Adnephrin Solution (Sterns) contains sulphite and does not, therefore, comply with the present rules of the Council. As a specific declaration of the presence of preservatives, however, was not formerly required, the product was not in conflict with the rules in force at the time of its acceptance. In view of this, it was recommended that in future editions of the N. N. R. (New and Nonofficial Remedies), it be indicated that Adnephrin Solution (Stearns) does not comply with the new rules of the Council.

In submitting this report, and the findings of the chemical laboratory given below, the subcommittee held that the identity of the preservatives in preparations of suprarenal alkaloid, especially of sulphite, should be known, and it therefore recommended their publication. The report was adopted by the Council and, after submission to Frederick Stearns & Co., was ordered published.

W. A. Puckner, Secretary.

THE PRESENCE OF SULPHITE IN COMMERCIAL SOLUTIONS OF SUPRAREAL ALKALOID.

[Contribution from the Chemical Laboratory of the American Medical Association.]

W. A. Puckner and W. S. Hilpert.

In response to the request of the Council, Adnephrin Solution (Stearns) was examined to determine the presence or absence of sulphite. As a check on the work the three other preparations of suprarenal alkaloid which have been accepted by the Council were tested in connection with Adnephrin. Two of these preparations contain sulphite, but this openly stated by the manufacturers. Nothing is said of the presence of sulphite in the third preparation, and the tests demonstrated the absence of this preservative.

TESTS.

Three samples of Stearns' Adnephrin Solution were purchased in the open market and qualitatively examined and found in each case to contain sulphite.[1]

Specimen 1, on examination,[2] was found to contain sulphite corresponding to 0.34 gm. anhydrous sodium sulphite to 100 c.c. adnephrin solution. As a check on this estimation, the total sodium and total chlorids were estimated,[3] confirming the sulphite determinations.

In Specimen 2, the sulphite content was equivalent to 0.28 gm. anhydrous sodium sulphite to 100 c.c. of Adnephrin Solution, corresponding with the estimation made on Specimen 1. To prove this further, the sulphate, present as such, and the total sulphate after oxidizing the sulphite to sulphate were determined, resulting in figures which demonstrated the correctness of the sulphite estimations.[4]

From the results of the above estimations, Stearns' Adnephrin Solution was demonstrated to contain sulphite equivalent to approximately 0.3 gm. sodium sulphite to each 100 c.c. of the solution.

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[1] The qualitative test for sulphite is the one proposed in Bulletin No. 107, p. 187, U. S. Department of Agriculture. The test is based on the property of sulphites being reduced, by the action of nascent hydrogen, to sulphids, which are then tested for.

[2] The quantitative estimation of sulphite used was made by the method suggested in the above mentioned bulletin, p. 187. By this method the sulphite is treated with phosphoric acid and the liberated sulphur dioxid distilled into tenth-normal iodin and the sulphite determined by residual titration by thiosulphate. Five c.c. Adnephrin Solution treated according to the above method consumed (a) 2.66 c.c. tenth-normal iodin and (b) 2.73 c.c. iodin, averaging 2.69 c.c., which is equivalent to 0.0167 gm. sodium sulphite. The pipette delivered 4.9916 gm. solution, of specific gravity of 1.015, thus making the sodium sulphite content 0.34 gm. per 100 c.c. of solution.

[3] The total sodium was determined by converting the sodium present to sodium sulphate and weighing as such. Thus 4.9916 gm. solution yielded 0.0734 gm. sodium sulphate and 10.0896 gm. solution yielded 0.1491 gm. sodium sulphate, averaging 1.47 gm. per 100 c.c. The chlorids were determined as silver chlorid and calculated to sodium chlorid, in a solution of which the Adnephrin is dissolved. Thus 0.6155 gm. solution yielded 0.0144 gm. silver chlorid and 0.5380 gm. yielded 0.011 gm. silver chlorid. The average of the two estimations calculated to sodium chlorid equals 0.85 gm. sodium chlorid per 100 c.c. of the Adnephrin Solution. The sodium sulphite calculated to sulphate equals 0.38 gm. per 100 c.c., leaving 1.09 gm. of the 1.47 gm. sodium sulphate per 100 c.c. to be calculated to sodium chlorid; this figure is 0.90 gm. per 100 c.c., agreeing with the direct chlorid estimation, i. e., 0.85 gm. per 100 c.c.

[4] The sulphite was determined in the same way as the first determination. Thus 4.9790 gm. Adnephrin Solution consumed (a) 2.27 c.c. iodin and 4.9872 gm. consumed (b) 2.24 c.c. iodin. The average of the two estimations calculated to sodium sulphite was found to be 0.28 gm. per 100 c.c. As a check the quantity of sulphate and the sulphate after oxidation by bromin were determined. Thus 4.8879 gm. Adnephrin Solution yielded 0.152 gm. barium sulphate and 4.9898 gm. solution yielded 0.0159 gm. barium sulphate. The average of these estimations calculated to sodium sulphate is 0.19 gm. per 100 c.c. of Adnephrin Solution. After oxidation the total sulphate was estimated, yielding the following results: It was found that 1.6519 gm. Adnephrin Solution yielded 0.144 gm. barium sulphate equivalent to 0.53 gm. sodium sulphate per 100 c.c. The sodium sulphate, present as such, subtracted from the total sulphate found after oxidizing the sulphate, leaves the figure 0.32 gm. per 100 c.c. to be calculated to sodium sulphate, yielding the figure 0.25 gm. per 100 c.c., agreeing with the results of direct sulphite estimation.

Action of Brucin.

Brucin is usually supposed to have an action similar to, but weaker than that of strychnin. W. E. Dixon and W. H. Harvey (*Pharmaceutical Journal*, Sept. 19, 1908, p. 367) find from investigation that brucin resembles methyl-strychnin more nearly than strychnin. Its action is closely allied to that of curare. While strychnin produces marked convulsions, those produced by brucin are never very violent or severe and quickly pass off. Strychnin causes death by spasm of the respiratory muscles and there is very rarely any evident paralysis. Brucin causes death in the same way as curare and methyl-strychnin, by paralysis of the motor nerve endings. The toxicity of brucin compared with strychnin is shown by a series of experiments on mammals to be in the relation of four to thirty-three.

Correspondence

Lucian's Estimate of the Physician.

Pittsburg, Pa., Oct. 17, 1908.

To the Editor:—Lucian, the great cynic and critic of the second century, in his essay entitled "Disinherited," makes the physician who had been disinherited for the second time because of his inability to cure his stepmother of madness protest in the language of the passage quoted below against the coercion which was used on him. It may be supposed that this passage reveals Lucian's own estimate of the dignity of the calling of the physician. It is well worth reading to-day.

"But the members of the medical profession should be left still more to their own discretion than other artists, in proportion to the greater nobility of their aims and usefulness of their work. This art should have a special right of choosing its objects; this sacred occupation, taught directly from Heaven, and pursued by the wisest of men, should be secured against all compulsion, enslaved to no law, intimidated and penalized by no court, exposed to no votes or paternal threats or uninstructed passions. If I had told my father directly and expressly: 'I will not do it, I refuse the case, though I could treat it; I hold my art at no man's service but my own and yours; as far as others are concerned, I am a layman'—if I had taken that position, where is the masterful despot who would have applied force and compelled me to practice against my will? The appropriate inducements are request and entreaty, not laws and browbeating and tribunals; the physician is to be persuaded, not commanded; he is to choose, not be terrorized; he is not to be haled to his patients, but to come with his own consent and at his own pleasure; governments are wont to give physicians the public recognition of honors, precedence, immunities and privileges; and shall the art which has state immunities not be exempt from the *patria potestas?*"

Theodore Diller.

A National Department of Health.

Chicago, Oct. 19, 1908.

To the Editor:—The editorial, "President Roosevelt and a Department of Public Health," published in The Journal, October 17, while valuable in certain respects, is to my mind misleading in other directions, due principally to unintentional oversight, no doubt, or omission to include other interesting details. If you would kindly refer to the platforms of at least four of the national parties, then compare and publish same, etc., some of us would be more enlightened on this subject. In other words, do not leave unsaid or unpublished that which might with equal propriety and dignity appear in an editorial. While this measure, or campaign on this one particular subject, is non-partisan in so far as it relates to the welfare and the happiness of the American people, and the

desirability of obtaining a Department of Health, yet, personally, I may be permitted to state that my political affiliations are with the Republican party. Yet this party's plank in the matter of a Department of Health, to my mind, is misleading or quite ambiguous, to state it mildly, or, as Dr. Gould pointed out a few months ago in *American Medicine*, "it is an insult to the medical profession" (or words to this effect). Then, too, the Democratic party in its platform refers to "advocating a "Bureau of Public Health," while the Independence party frankly advocates "the creation of a national Department of Health with a member of the medical profession at head of it," etc. The Socialist party, in its platform (if I recollect correctly), advocates practically the same measure. It seems to me that the sentiment of the medical profession is quite unanimously crystalized on the desirability of having a national Department of Health with a medical scientist in the Cabinet, and not a "Bureau of Public Health," and nothing said about a physician in the Cabinet. I am not aware that either President Roosevelt or Mr. Taft nor the able Committee of One Hundred have thus far decided for this proposed new department with a physician in charge of this projected new portfolio. I am greatly pleased to learn that many in our profession who formerly opposed this measure now endorse it. As above stated, as I understand, the crystallization of sentiment of the members of the American Medical Association favors "a Department (not a bureau) of Public Health" with an efficient and able hygienist—a medical man—in the President's official family. In just ethical criticism we learn much.
LISTON HOMER MONTGOMERY.

Association News

Standing and Special Committees.

The following is a list of the standing and special committees that have been appointed or added to by President Burrell since the Chicago session of the Association:

COMMITTEE ON MEDICAL LEGISLATION.—Dr. George W. Gay, Boston, has been appointed in place of Dr. Charles Harrington (deceased). Therefore, the committee now stands: Dr. Charles A. L. Reed, Cincinnati, Chairman; Dr. Charles S. Bacon, Chicago, and Dr. George W. Gay, Boston.

BOARD OF PUBLIC INSTRUCTION ON MEDICAL SUBJECTS.—Dr. George W. Crile, Cleveland, Ohio, has been appointed in place of Dr. L. Emmet Holt (term expired), and Dr. Myles Standish, Boston, in place of Dr. Charles Harrington (deceased). The other members of the Board are Dr. John G. Clark, Philadelphia, Chairman; Dr. F. F. Simpson, Pittsburg, Pa.; Dr. Frank Billings, Chicago; Dr. L. S. McMurtry, Louisville, Ky., and Dr. Howard A. Kelly, Baltimore.

COUNCIL ON DEFENSE OF MEDICAL RESEARCH.—Dr. W. B. Cannon, Boston, Chairman; Dr. Joseph A. Capps, Chicago; Dr. Harvey Cushing, Baltimore; Dr. David L. Edsall, Philadelphia; Dr. Simon Flexner, New York City; Dr. Reid Hunt, Washington, D. C.; Dr. H. C. Moffitt, San Francisco.

COMMITTEE ON TRANSPORTATION AND PLACE OF SESSION.—Dr. M. L. Harris, *Chicago, Chairman*; Dr. W. A. Jayne, Denver; Dr. Kenneth A. J. Mackenzie, Portland, Ore.; Dr. W. D. Haggard, Nashville, Tenn.; Dr. E. Eliot Harris, New York City.

COMMITTEE ON ELABORATION OF PRINCIPLES OF ETHICS.—Dr. F. C. Shattuck, Boston, Chairman; Dr. George W. Guthrie, Wilkes-Barre, Pa.; Dr. Stuart McGuire, Richmond, Va.; Dr. Charles R. Bardeen, Madison, Wis.; Dr. C. A. Powers, Denver.

CONFERENCE *COMMITTEE ON DRUG* REFORM.—Dr. Lewis S. McMurtry, Louisville, Ky., Chairman; Dr. D. R. Silver, Sidney, Ohio; Dr. J. Forrest Burnham, Lawrence, Mass.

COMMITTEE ON PATENTS AND TRADEMARKS.—Dr. Charles S. Bacon, Chicago, Chairman; Dr. Oliver T. Osborne, New Haven, *Conn.; Dr. Philip* Mills Jones, San Francisco; Dr. A. B. Cooke, Nashville, Tenn.; Dr. H. C. Wood, Jr., Philadelphia.

COMMITTEE ON UNIFORM REGULATION OF MEMBERSHIP IN COUNTY AND STATE SOCIETIES.—Dr. Thomas S. McDavitt, St. Paul, Minn., Chairman; Dr. W. R. Steiner, Hartford, Conn.; Dr. Frederick R. Green, Chicago.

DELEGATES TO REPRESENT THE AMERICAN MEDICAL ASSOCIATION IN THE COUNCIL OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—Dr. George M. Kober, Washington, D. C., and Dr. George H. Simmons, Chicago.

Queries and Minor Notes

A GRAIN TO A DROP.

PEORIA, ILL., Sept. 2, 1908.

To the Editor:—I wish to call attention to a frequent error made in prescribing iodid of sodium and potassium. Practically every work on syphilis and genitourinary diseases makes the statement that if the iodid of potassium or sodium is prescribed in a saturated solution in distilled water, each drop of this solution represents 1 grain of the iodid.

This statement is erroneous. It takes 2 drops to represent 1 grain of the iodid. I prescribe one ounce of the iodid of sodium or potassium with distilled water added in sufficient quantity to make one ounce.

This is practically a saturated solution. Now the iodid of sodium solution will be found to contain about 120 drops and the potassium solution about 130 drops to the dram.

As it takes 2 drops to represent 1 grain of the drug, many physicians have unquestionably made the mistake of thinking that they were prescribing grain for drop in such a solution, but were in reality giving the patient only ½ grain of the iodid to each drop. I have been in error myself for years about this and think it important enough to call the attention of the profession to it.

J. CLAUDE PAINE, M.D.

ANSWER.—Our correspondent calls attention to but one of a number of errors frequently made in connection with the use of popular dose measures of medicinal substances. Inadvertently, however, he also makes an assertion that he himself can readily prove to be quite as incorrect as the one to which he calls attention. It has long been known that the size of a drop varies with the composition of the liquid, the shape, size and other characteristics of the surface from which it is dropped, the rate of flow, and, to some extent at least, the general atmospheric conditions existing at the time. Appreciating the readiness with which the size and weight of a drop may be influenced, and the evident difficulty of obtaining correlating results at different times, the fallacy of any dogmatic statement as to the size or weight of a drop must be apparent.

Many of us, despite the fact that we have been taught differently, are too readily disposed to consider as fact the popular notion that "a pint is a pound the world around," that a drop is the equivalent of a minim, that a teaspoonful represents one fluidrachm and that a tablespoonful is the equivalent of four teaspoonfuls, forgetting entirely that as measures of capacity the quantities are but approximate at best and that they frequently, if not always, differ widely from the quantities that they are supposed to represent. It has long been demonstrated that the approximate equivalents for the popular dose measures, as used in this country, are incorrect and misleading and the quasi-recognition that is frequently accorded them, such as the table of approximate measures in the now official Eighth Decennial Revision of the Pharmacopeia, serves to confuse rather than to aid in the development of accuracy.

Some attempts have been made to obtain measuring instruments which shall discharge drops of uniform size. Thus Whitall, Tatum & Co., Philadelphia, offer for sale minim pipettes claimed to discharge drops which each measure one minim. Since the size of a drop depends not only on the character of the opening at which it forms, but also on the nature of the liquid, such a pipette will only in part overcome the difficulty. At the international agreement respecting the unification of pharmacopeial formulas for potent drugs signed at Brussels, Nov. 29, 1902, it was agreed that the normal drop measure officially recognized shall have an external diameter of 3 mm. and give at the temperature of 15° C., 20 drops of distilled water per gm. Some of the recently published pharmacopeias contain tables giving the size of the drops of various liquids when dropped from the standard instruments..

We would suggest that physicians accept the suggestion of Dr. Paine to prescribe solution of sodium or potassium iodid made by dissolving one ounce (480 grains) of the substance in sufficient water to make one fluidounce, but that they use minims to indicate the dose to be taken, and that they direct the patient to secure a minim graduate for the purpose.

FOWLS AS TYPHOID BACILLI DISSEMINATORS.

WASHINGTON, D. C., Oct. 19, 1908.

To the Editor:—Have any investigations been made and results published as to the possibility of domestic fowls, particularly chickens, being typhoid bacilli disseminators. It has occurred to me that such may be the case for it is readily seen that chickens could feed on typhoid stools or ingest gravel on which such stools or urine have been deposited. Then, too, the chicken excreta might be exposed to flies and by them the germs could be carried to food. Typhoid fever epidemics of obscure origin might be traced to such sources, at least such a possibility should be borne in mind and investigations made along these lines.

DORSEY M. MCPHERSEN, M.D.

ANSWER.—Stokes (*Maryland Med. Jour.*, November, 1900) has recorded careful investigation on the possibility of the passage of living typhoid bacilli through the intestinal tract of fowls and other animals. Very large quantities of a forty-eight-hour old broth culture of the typhoid bacillus were mixed with the food of two chickens, two white rats, two rabbits, two guinea-pigs, two pigs and one calf. Although at least 500 suspicious colonies from the feces of these animals were carefully tested, in no case was the investigator able to demonstrate the presence of typhoid bacilli in the dejecta.

CALCIUM LACTATE.

Washington, Oct. 19, 1908.

To the Editor:—Kindly give me a short description of calcium lactate, its physiologic action, dose and therapeutic indications. In various articles in The Journal, in which the calcium salts are mentioned in treatment of urticaria, purpura, etc., the lactate seems to be given preference to the chlorid. P. L.

Answer.—Calcium lactate is not official in any pharmacopeia, so far as we know. Calcium lactate, Ca $(C_3H_5O_3)_2 5H_2O$ is obtained in the preparation of lactic acid or may be prepared by dissolving calcium carbonate in warm diluted lactic acid, filtering while hot, and crystallizing. It occurs in white granular masses or powder, or in acicular crystals, odorless, and having scarcely any taste. It is soluble in water (1 in 15), less so in hot water, slightly soluble in alcohol, insoluble in ether. The solubility of different specimens of calcium lactate varies considerably and is affected by age. It becomes anhydrous at 100° C. (212° F.). Calcium lactate increases the coagulability of the blood and on this account is given before operations (1 or 2 gram doses—15 or 30 grains). It is said to be useful for chilblains and chronic ulcerations. It has been given with reported good results in hemophilia, purpura, and some forms of albuminuria; in rickets and tuberculous disease. The dose is 0.5 to 4 grams (10 to 60 grains). It is much less irritant than calcium chlorid, and may be injected subcutaneously. The large doses now given may be suspended in water, or, as this salt is permanent in the air, it may be dispensed in powders or in cachets.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Oct. 24, 1908.

Reynolds, F. P., maj., in addition to present duties, will take charge of office of chief surgeon, Dept. of Dakota, during the absence of Col. George W. Adair.

Stephenson, William, lieut-col., promoted from major, with rank from May 1, 1908.

Truby, A. E., and Church, J. R., maj., promoted from captain, with rank from May 1, 1908.

Ford, J. H., maj., promoted from captain, with rank from May 20, 1908.

Ashburn, P. M., maj., promoted from captain, with rank from June 24, 1908.

Cole, C. LeR., capt., promoted from first lieutenant, with rank from May 13, 1908.

Quinton, W. W., capt., arrived at New York City on sick leave of absence for one month.

Blanchard, R. M., capt., relieved from duty at Fort Wingate, N. M., and ordered to Fort Sheridan, Ill., for duty.

Fife, J. D., capt., relieved from duty at Fort Slocum, N. Y., and ordered to sail from San Francisco, Nov. 5, for Philippine service.

Wells, F. M., M. R. C., ordered to Fort Mackenzie, Wyo., for temporary duty.

Lemmon, Robert, M. R. C., granted leave of absence for one month.

Henning, O. F., M. R. C., granted leave of absence for ten days, about Nov. 20; relieved from active duty at expiration of leave.

Buchsbaum, Maurice, M. R. C., ordered to active duty at Fort D. A. Russell, Wyo.

Stephenson, A. V., M. R. C., arrived at San Francisco, on the *Sheridan* for treatment at the Army General Hospital, San Francisco.

Betts, C. A., M. R. C., ordered to active duty at Fort Lawton, Wash.

Pargon, J. A., M. R. C., ordered to active duty at Fort Yellowstone, Wyo.

Foster, D. E., dent.-surgeon, arrived at San Francisco on the *Sheridan* for leave of absence for one month from Philippine Division.

Laugenderfer, F. C., contract surgeon, arrived at San Francisco, on the *Sheridan* and ordered to Chicago, for annulment of contract.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Oct. 24, 1908.

Riker, G. A., acting asst.-surgeon, appointed acting assistant-surgeon from Oct. 16, 1908; ordered to course of instruction at the Naval Medical School, Washington, D. C.

Donelson, M., asst.-surgeon, detached from the *Stringham* and ordered to the *Macdonough*.

Orders issued by Commander, Third Squadron, Pacific Fleet:

Morris, L., surgeon, ordered to the Naval Station, Cavite, P. I.

Carpenter, D. N., surgeon, detached from the Naval Station, Cavite, P. I., and ordered home.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 21, 1908:

Carmichael, D. C., surg., granted 18 days' leave of absence from Nov. 16, 1908.

Stoner, J. B., surg., granted 5 days' absence from Oct. 19, 1908.

Young, G. B., surg., directed to proceed to Port Huron, Mich., and Milwaukee, Wis., on special temporary duty.

Cofer, L. E., P. S. surgeon, relieved from duty in Hawaii and directed to proceed to Washington, D. C., for further orders.

Grubbs, S. B., P. A. surgeon, directed to proceed to St. Petersburg, Russia, Berlin, Germany and Libau, Russia, on special temporary duty, Sept. 4, 1908. Detailed to represent the Service at the meeting of the International Committee at Paris, Nov. 4, 1908.

Heiser, V. G., P. A. surgeon, detailed to represent the Service at the meeting of the Southern Medical Association at Atlanta, Ga., Nov. 10-12, 1908.

White, M. J., P. A. surgeon, granted 7 days' leave of absence from Oct. 16, 1908.

Billings, W. C., P. A. surgeon, relieved from duty at Vancouver, British Columbia, and directed to proceed to Washington, D. C., for further orders.

Blanchard, J. F., acting asst.-surg., granted 2 days' leave of absence from Oct. 22, 1908.

Lyall, Robert, acting asst.-surg., granted 12 days' extension of leave of absence, without pay, from Oct. 5, 1908.

Tappan, J. W., acting asst.-surg., directed to proceed to Eagle Pass, Laredo, and Brownsville, Texas, and Naco, Douglas, and Nogales, Ariz., on special temporary duty.

Villoldo, Pedro, acting asst.-surg., granted 30 days' leave of absence from Oct. 20, 1908.

Rodman, J. C., acting asst.-surg., granted 10 days' leave of absence from Oct. 15, 1908.

BOARDS CONVENED.

Board of Medical Officers convened to meet at the Marine-Hospital, Baltimore, Md., Oct. 17, 1906, for physical examination of Cadets of the Revenue-Cutter Service; Surgeon L. L. Williams, chairman; P. A. Surgeon J. T. Burkhalter, recorder.

Board of Medical Officers convened to meet at the Marine-Hospital, New Orleans, on the call of the chairman, for the purpose of re-examining a candidate for a position in the Life Saving Service; Surgeon J. H. White, chairman; P. A. Surgeon H. W. Wickes, recorder.

Board of Medical Officers convened to meet at the Marine-Hospital, Baltimore, Oct. 26, 1908, for the purpose of making a physical examination of Cadet Engineers of the Revenue-Cutter Service, for promotion; Surgeon L. L. Williams, chairman; P. A. Surgeon J. T. Burkhalter, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 23, 1908.

SMALLPOX—UNITED STATES.

California: San Francisco, Sept. 12-Oct. 3, 7 cases.
Massachusetts: Lawrence, Sept. 27-Oct. 3, 1 death.
Ohio: Cincinnati, Sept. 26-Oct. 2, 2 cases.
Wisconsin: LaCrosse, Sept. 27-Oct. 3, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 23-29, 3 cases, 2 deaths.

SMALLPOX—FOREIGN.

Arabia: Aden, Sept. 7-14, 9 deaths.
Brazil: Rio de Janeiro, Aug. 31-Sept. 13, 1,386 cases, 566 deaths. Santos, Aug. 31-Sept. 6, 15 cases, 5 deaths.
Ceylon: Colombo, Aug. 30-Sept. 5, 9 cases, 11 deaths.
Egypt: Cairo, Sept. 9-16, 1 case.
France: Paris, Sept. 19-26, 1 case.
India: Bombay, Sept. 1-8, 4 deaths.
Indo-China: Cholen, Aug. 22-29, 1 case.
Italy: General, Sept. 13-20, 33 cases; Naples, Sept. 29-Oct. 4, 4 cases, 1 death; Palermo, Aug. 5-12, 2 cases.
Japan: Kobe, Sept. 5-12, 1 case.
Java: Batavia, Aug. 8-22, 9 cases, 1 death.
Mexico: Acapulco, Sept. 19-26, 3 cases; Mexico City, Aug. 8-29, 16 deaths.
Norway: Christiania, Sept. 12-19, 1 case, 5 deaths.
Portugal: Lisbon, Sept. 19-26, 2 cases.
Russia: Warsaw, Sept. 22-29, 4 deaths.
Turkey: Bagdad, Aug. 30-Sept. 5, 19 cases, 5 deaths; Constantinople, Sept. 13-20, 12 deaths.

YELLOW FEVER.

Brazil: Manaos, Aug. 22-Sept. 5, 2 deaths; Para, Sept. 12-26, 2 cases, 2 deaths.
Martinique: Fort de France, Sept. 12-19, 3 cases.
Mexico: Merida, Sept. 19-Oct. 10, 4 cases; Veracruz, Oct. 19-20, 3 cases.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 20 cases, 16 deaths; Provinces, 1,103 cases, 686 deaths.

CHOLERA—FOREIGN.

China: Hongkong, Aug. 15-Sept. 5, 10 cases, 10 deaths.
India: Madras, Aug. 29-Sept. 11, 230 deaths.
Japan: Moji, to Sept. 16, 36 cases, 13 deaths.
Russia: General, Sept. 25-Oct. 1, 3,251 cases, 2,429 deaths. Odessa, Sept. 11-25, 11 cases, 8 deaths; Riga, Sept. 25, 1 case, 1 death; St. Petersburg, to Oct. 3, 6,411 cases, 2,429 deaths.
Straits Settlements: Singapore, Aug. 22-29, 10 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Sept. 6-13, 1 case.
China: Hongkong, Aug. 15-Sept. 5, 5 cases, 6 deaths.
Formosa: General, Aug. 8-15, 9 cases, 2 deaths.
India: General, Sept. 5-12, 2,503 cases, 1,581 deaths; Bombay, Sept. 1-8, 22 deaths; Rangoon, Aug. 22-Sept. 5, 36 deaths.
Indo-China: Sadgen, Aug. 22-29, 13 cases, 12 deaths.
Japan: Kobe, Sept. 5-12, 1 death.
Trinidad: Port of Spain, Sept. 26-28, 2 cases, 2 deaths.
Venezuela: Caracas, Sept. 22-Oct. 4, 2 cases, 1 death.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

NEVADA State Board of Medical Examiners, Carson City, November 2. Secretary, Dr. S. L. Lee, Carson City.

LOUISIANA Homeopathic Medical Board, 919 St. Charles street, New Orleans, November 2. Secretary, Dr. Gayle Aiken, 1102 St. Charles avenue, New Orleans.

NEBRASKA State Board of Health, Capitol Bldg., Lincoln, November 4-5. Secretary, Dr. E. J. C. Sward, Oakland.

OKLAHOMA State Board of Medical Examiners, Muskogee, November 6. Secretary, Dr. F. P. Davis, Enid.

RHODE ISLAND State Board of Health, State House, Providence, November 5-6. Secretary, Dr. Gardner T. Swarts, 315 State House, Providence.

TEXAS State Board of Medical Examiners, Houston, November 10. Secretary, Dr. M. E. Daniel, Honey Grove.

CONNECTICUT Homeopathic Medical Board, New Haven, November 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand avenue, New Haven.

CONNECTICUT Eclectic Medical Board, Hotel Garde, New Haven, November 10. Secretary, Dr. T. S. Dodge, Torrington.

CONNECTICUT State Medical Examining Board, City Hall, New Haven, November 10-11. Secretary, Dr. Charles Tuttle, 196 York street, New Haven.

MAINE Board of Registration of Medicine, Preble House, Portland, November 10-11. Secretary, Dr. William J. Maybury, Saco.

FLORIDA Regular Board of Medical Examiners, Jacksonville, November 11-12. Dr. J. D. Fernandez, Jacksonville.

WEST VIRGINIA State Board of Health, Wheeling, November 10-12. Secretary, Dr. H. A. Barbee, Point Pleasant.

MISSOURI State Board of Health, Kansas City, November 23-25. Secretary, Dr. J. A. B. Adcock, Warrensburg.

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, November 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

The New Dean of Harvard Medical School.

At a meeting of the president and fellows of Harvard University, October 12, Dr. Henry Asbury Christian was elected dean of the Medical School to fill the place vacated over a year ago by Dr. William L. Richardson. The position required a man who not only would bring to his work administrative skill of a high order, but who had also received a comprehensive training in modern medicine, a training which adds to the equipment of the practitioner all that physical and biologic science can contribute, both of substantial knowledge and of method.

Dr. Christian is especially qualified for his new duties. He is recognized as a fruitful investigator in the fields of pathology and clinical medicine. He served in 1906 as chairman of the Section on Pathology and Physiology of the American Medical Association. He is also a member of the American Association of Pathologists and Bacteriologists, the Massachusetts Medical Society, the Boston Society of Medical Sciences and the Association of American Physicians. Harvard Medical School is to be congratulated on their choice.

Iowa May and June Reports.

Dr Louis A. Thomas, secretary of the Iowa State Board of Medical Examiners, reports the written examinations held at Keokuk, May 12-14; Sioux City, May 26-28; Des Moines, June 4-6, and at Iowa City, June 9-11, 1908. The number of subjects examined in was 8; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 134, of whom 100 passed and 34 failed. Nineteen applicants were licensed through reciprocity. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Chicago Coll. of Med. and Surg.	(1908)	75.1, 75.1
Northwestern Univ. Med. School	(1908)	80.2
Rush Med. Coll	(1907)	88
Keokuk Med. Coll., Coll. of P. and S.	(1904) 75.2; (1908)	75.2, 75.4, 75.6, 78.6, 78.8, 81.1, 81.1, 81.6, 82.2, 82.6, 84.8, 85.5, 85.7, 86.5, 87.4, 87.8, 88.7, 89, 91.5.
State University of Iowa	(1908)	75.2, 76.7, 76.8, 77.1, 78, 78.4, 79.6, 79.7, 80.5, 80.6, 81.2, 81.4, 81.4, 81.5, 81.6, 81.7, 81.7, 82.1, 82.2, 82.6, 82.6, 82.7, 83.1, 83.5, 83.6, 84.1, 84.4, 84.4, 85, 85.4, 85.7, 86.1, 87, 87, 87.2, 87.5, 87.6, 89, 90.2.
State University of Iowa, Homeopathic Dept.	(1908)	78.7, 79.9, 81, 81.1, 86.5, 87.1, 88.1, 92.2.
Drake University	(1908)	75.5, 75.6, 76.8, 76.8, 77.2, 79.1, 79.7, 81, 81.1, 82.6, 83.4, 84.7, 88.5, 89.5, 90.1.
Sioux City Coll. of Med.	(1908)	79.8, 80.1, 81.8, 82.1, 83.5, 84, 85.2.
Harvard Med. School	(1906)	79.4
University of Michigan	(1907)	81
Hahnemann Med. Coll., Kansas City	(1908)	75
Barnes Med. Coll	(1907)	79.2
Creighton Med. Coll	(1908)	86.7
Hahnemann Med. Coll., Philadelphia	(1908)	77.7, 92.2

FAILED.

College.	Year Grad.	Per Cent.
College of P. and S., Chicago	(1905)	59.1
Hahnemann Med. Coll., Chicago	(1908)	74.1
State University of Iowa	(1906) 61.7; (1908)	68.4, 67.7, 71.2, 73.4, 74.1, 74.2.
State University of Iowa, Homeopathic Dept.	(1908)	64.6
Sioux City Coll. of Med.	(1908)	65.8
Drake University	(1908)	69, 72.1, 73.7, 74.2
Keokuk Med. Coll., Coll. of P. and S.	(1908)	44, 45.8, 53.5, 62, 67.1, 67.6, 67.8, 69.2, 69.8, 70.1, 70.2, 70.2, 71.5, 74.1, 74.5, 74.7.
Ensworth Med. Coll	(1908)	64.1
St Louis University	(1908)	72.5
Creighton Med. Coll	(1907)	60.5

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with
Colleg of P. and S., Chicago	(1904) (1907)	Illinois
Rush Med. Coll	(1900) (1906)	Illinois
Chicago Coll. of Med. and Surg.	(1908)	Illinois
American Med. Miss. Coll	(1906)	Illinois
Bennett Coll. of Ecl. Med. and Surg.	(1905)	Illinois
Dearborn Med. Coll	(1905)	Illinois
Illinois Med. Coll	(1907)	Illinois
Northwestern Univ. Med. School	(1907)	Illinois
Kentucky University	(1905)	Nebraska
St. Louis University	(1905)	Illinois
University Med. Coll., Kansas City	(1908)	Missouri
Ensworth Med. Coll	(1908)	Kansas
University of Nebraska	(1904) (2, 1907) (1908)	Nebraska
University of Pennsylvania	(1903)	Illinois

New Mexico July Report.

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fé, July 13-14, 1908. The number of subjects examined in was 14; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 11, all of whom passed. Thirty-six applicants were licensed on presentation of satisfactory credentials. The following colleges were represented

PASSED.

College.	Year Grad.	Per Cent.
Chicago Coll. of Med. and Surg.	(1908)	86.5
Kentucky School of Med.	(1908)	84.5
St. Louis Coll. of P. and S.	(1908)	82.9
University of Missouri	(1908)	93.5
Memphis Hosp. Med. Coll.	(1891) 79.5; (1892) 83.7; (1904)	75.3
University of Nashville	(1903)	78.2
University of Tennessee	(1900)	75.5
College of P. and S., Dallas	(1908)	77.5
University of Texas	(1907)	80.3

LICENSED ON CREDENTIALS.

College.	Year of Grad.
National University, Washington	(1897)
Rush Med. Coll	(1886)
Northwestern Univ. Med. School	(1904)
Bennett Coll. of Ecl. Med. and Surg.	(1878) (1888)
College of P. and S., Chicago	(1903)
Medical Coll. of Indiana	(1892)
Kansas Med. Coll	(1906)
Southwestern Homeo. Med. Coll., Louisville	(1896)
Kentucky School of Med	(1888) (1889)
University of Louisville	(1878) (1887)
Hospital Coll. of Med., Louisville	(1887)
Louisville Med. Coll	(1904)
Tulane University of Louisiana	(1900) (1906)
Baltimore Med. Coll	(1896) (1906)
College of P. and S., Baltimore	(1903) (1906)
University of Maryland	(1905)
Saginaw Valley Med. Coll	(1898)
Michigan Coll. of Med. and Surg.	(1902)
Missouri Med. Coll	(1888)
St. Louis University	(1905) (1906)
Kansas City Homeo. Med. Coll	(1894)
Barnes Med. Coll	(1899)
Long Island Coll. Hosp	(1891)
Medical Coll. of Ohio	(1896)
Ohio Med. University	(1897)
Jefferson Med. Coll	(1906)
University of Pensylvania	(1896)
University of Texas	(1898)
National Med. School, Mexico City	(1877)

Nebraska August Report.

Dr. E. J. C. Sward, secretary of the Nebraska State Board of Health, reports the written examination held at Lincoln, Aug. 5-6, 1908. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 25, of whom 20 passed and 5 failed. Twenty reciprocal licenses were isued at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Rush Med. Coll	(1896) 81.3; (1907)	85.9
Northwestern Univ. Med. School	(1907) 79.3; (1908)	82.7
American Med. Miss. Coll	(1905)	79.7
University of Louisville	(1908)	79.2, 80.7
Harvard Med. School	(1908)	78.1
Creighton Med. Coll.	(1907) 87.6; (1908)	75.1, 78.3, 80.3, 81.1, 82.2, 86.5.
Nebraska Coll. of Med	(1907)	76
Lincoln Med. Coll	(1907)	79
University of Nebraska	(1902) 90; (1903)	90
Western University, London, Ontario	(1906)	75.9

FAILED.

College.	Year Grad.	Per Cent.
Keokuk Med. Coll	(1906)	68.1
Creighton Med. Coll	(1906) 72.5* (1908)	73.6
Meharry Med. Coll	(1908)	67, †73.2

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with
Howard University	(1891)	Missouri
Northwestern Univ. Med. School	(1907)	Illinois
College of P. and S., Chicago	(1903), (1906)	Illinois
Hahnemann Med. Coll., Chicago	(1908)	Illinois
American Med. Miss. Coll	(1903)	Iowa
Keokuk Med. Coll	(1896)	Iowa
Sioux City Coll. of Med	(1908)	Iowa
Louisville Med. Coll., (1892), (1898) Missouri:	(1903)	Indiana
Barnes Med. Coll	(1904)	Missouri
University of Kansas	(1907)	Texas
University Med. Coll., Kansas City (1907) Missouri:	(2, 1908)	Kansas
Hamline University	(1906)	Minnesota
Marion Sims Coll. of Med	(1899)	Missouri
St. Louis Coll. of P. and S	(1903)	Missouri
Lincoln Med. Coll	(1901)	Kansas

* Fourth examination.
† Second examination.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Mississippi's Next Senator on Typhoid Fever.

The *Jackson* (Miss.) *Issue*, owned and edited by Hon. James K. Vardaman, has been discussing, editorially, sanitary and public health questions. A recent number contains an editorial calling for the establishment and equipment of a modern hospital in Jackson, also an editorial on the economic importance of typhoid fever. In the latter, the editor refers to a family of eight members, all of whom were prostrated with typhoid fever at the same time. He says:

> In the near future such a condition of affairs in any community in this state will be remembered as the result of the crude barbarity of our civilization. The disease of which that family is suffering is essentially a preventable disease. Its spread was the result of ignorance, uncleanliness and carelessness. The failure to take certain precautions may result in the death of a dozen of the best, most useful citizens of the neighborhood and an untold amount of suffering. There ought to be a health officer in every county in this state, charged with the duty of preventing the spread of such diseases. . . . Such a policy would be economical when measured by the standard of dollars and cents. The loss of time incident to sickness is much more expensive than the cost of proper medical treatment and the enforcement of wise, sanitary laws. It is passing strange to me that man will spend money to exterminate insects that destroy the crops, germs that kill cattle, hogs, horses, cows and chickens, but are wholly careless and indifferent when it comes to preserving the public health and preventing the spread of disease among human beings. I trust that this matter may engage the intelligent attention of the legislature at its coming session and that much needed remedial legislation may be enacted.

It is a gratifying and encouraging evidence of the spread of modern scientific knowledge among laymen when statesmen like Mr. Vardaman demand proper sanitary laws as a duty to the people of the state. Such support and endorsement will go far to secure for Mississippi the health legislation which is so urgently needed. If our political leaders and statesmen can be convinced of the importance and urgent necessity of such laws, the problem of their enactment and enforcement will be greatly simplified. The value of such leadership in the campaign for better health conditions will be incalculable.

Public School Instruction in New Jersey.

The public school authorities of New Jersey have inaugurated a systematic campaign of education in the public schools against tuberculosis. The State Board of Health has issued placards for exhibition in the school rooms throughout the state. These placards contain a few easily understood rules for the prevention of the spread of the disease and emphasizing the importance of fresh air, sunshine and proper methods of living. Such work should be done in every state, either by the State Board of Health or by the State Medical Society. The hope of the future, both morally and hygienically speaking, is the army of school children now developing. If the child can learn prophylaxis and personal cleanliness alone with his letters and multiplication table, the control of disease in the future will be vastly aided.

A Breezy Invitation from Mexico.

The invitation for the annual meeting of the International Medical Association of Mexico, to be held at Tampico, Jan. 20-22, 1909, is refreshingly breezy and informal, as shown by the following extracts:

> If you wish to read a paper send the title to the chairman of the section; if you wish to talk we will listen and criticize; if you wish to wrap yourself in a large chunk of silence you can have it frozen on you at the ice plant without extra charge, but come.

The chairman of the entertainment committee says:

> Those who like tarpon fishing should bring their tackle; shooters should bring their guns and duck shot. Those who don't like hunting or fishing can bring along a few new ideas, some good stories and a thirst.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month.

Third Weekly Meeting.

3. DISEASES DUE TO PARASITIC INFUSORIA.

Trichomonas vaginalis, trichomonas (cercomonas) hominis, lamblia intestinalis, balantidium coli; size, pathogeny, occurrence in body, of each.

4. DISEASES DUE TO FLUKES.

A. Pulmonary Distomiasis.—Parasite, distribution, symptoms.

B. Hepatic Distomiasis.—Species found, distribution, occurrence in animals, symptoms.

C. Intestinal Distomiasis.

D. Hæmic Distomiasis; Bilharziosis.—Parasite, symptoms.

5. DISEASES CAUSED BY NEMATODES.

A. Ascariasis.

Ascaris lumbricoides: shape, size, length, ova, site in intestine, number, migrations. Symptoms and treatment.

B. Trichiniasis.

Trichinella spiralis; (a) adult or intestinal form, (b) larva or muscle trichinella; shape, size, frequency, epidemics, distribution in United States, occurrence in animals, hogs, etc. Development: ingestion of trichinella in flesh, digestion of capsule, migration to small intestine, brood of embryos in 7 to 9 days, direct migration and by lymph and blood stream, penetration of muscle with interstitial myositis, development of capsule at about six weeks. Calcification of capsule and worm, vitality of trichinella. Presence in stools. Diagnosis, gastrointestinal symptoms, epidemic form, worms in stools, presence of eosinophiles, muscular pain and tenderness, edema about eyes.

C. Oxyuriasis.

Oxyuris vermicularis: Frequency, distribution, size, shape, source of infection. Symptoms and treatment.

Marriages

Joseph L. McNeece, M.D., Morley, Mich., to Miss Emma Belle Lehn of Newark, N. J., October 8.

William W. Wood, M.D., Jasper, Minn., to Miss Mollie Hansen of Flandreau, S. D., October 16.

Horace D. Bloombergh, Medical Corps, U. S. A., to Miss Helen Howard of Atchison, Kan., Oct. 7.

Julius G. Newgard, M.D., Roslyn, Wash., to Miss Edith Corbitt of Seattle, Wash., September 28.

Frank N. Schroeder, M.D., Holy Cross, Iowa, to Miss Clara Marie Heles of Dubuque, October 13.

Ladislaus Detre, M.D., Budapest, Hungary, to Miss Lillian Coblenzer of Washington, D. C., October 15.

Paul F. Brown, M.D., Eveleth, Minn., to Miss Caroline Louise Kidney of Janesville, Minn., October 8.

William Jay Mersereau, M.D., to Miss Josepha Myrta Newbury, both of New York City, October 14.

Edward Spencer Cowles, M.D., to Miss Florence Jaquith, both of Boston, at Bridgeport, Conn., October 8.

John Land Neilson, Passed Assistant Surgeon, U. S. Navy, to Miss Caroline McDougal of Vallejo, Cal., October 16.

Theodore Irving Townsend, M.D., Dannemora, N. Y., to Miss Katherine Burdick of New York City, October 14.

Charles Wouson Eveleth, M.D., New York City, to Miss Elizabeth H. MacMunn, of Mount Alverno, Pa., recently.

Francis A. Graham, M.D., Lincoln, Neb., to Winnifred Goldsbury, M.D., of Craig, Neb., at Rogers, Neb., October 13.

James Wallace Van Dusen, captain Medical Corps, U. S. Army, to Miss Besse Evelyn Haines of Elyria, Ohio, October 20.

Wrey Gilmor Farwell, Passed Assistant Surgeon, U. S. Navy, to Miss Virginia Davis Schaefer, at Baltimore, October 22.

Deaths

Thomas Haven Dearing, M.D. Harvard Medical School, 1861; said to have been the oldest practitioner of Norfolk County, Mass.; formerly president of the Norfolk District Medical Society; and ex-officio vice-president of the Massachusetts Medical Society; professor of surgery and dermatology in the College of Physicians and Surgeons, Boston; and for nearly six years dean of that institution; assistant surgeon to a Massachusetts regiment and in charge of a large hospital in Washington during the Civil War; for many years a member of the school boards of Boston and Braintree, and for five years chairman of the latter board; in 1889 representative to the legislature; a member of the local pension board; died at his home in Braintree, October 15, aged 82.

Charles Franklin Rand, M.D. University of Georgetown, Washington, D. C., 1873; who was the first man to volunteer for service in the Union Army during the Civil War, and was awarded the first Medal of Honor given by Congress; for three months in captivity in Libby Prison, Richmond; afterward made provost marshal of the District of Columbia; a member of the American Geographic Society and American Association for the Advancement of Science; died at his home in Washington, October 13, from angina pectoris, aged 67.

George Ashbridge Fairlamb, M.D. University of Pennsylvania, 1848; for many years a member and in 1908 made an honorary member of the Medical Society of the State of Pennsylvania; one of the oldest practitioners of Bellefonte, Pa.; who served through the Civil War, was a prisoner in Libby Prison and was discharged from the service as lieutenant colonel; surgeon of the Lazarretto below Philadelphia for two years; died in his apartments in Bellefonte, October 12, from senile debility, aged 82.

Weston Le Roy Herriman, M.D. Queens College, Kingston, Ont., 1855; L.R.C.P. & S., Kingston, 1869; acting assistant surgeon in the U. S. Army during the Civil War; member of the municipal council and of the medical staff of the Ross Memorial Hospital, Lindsay, Ont.; town physician; formerly medical health officer; and president of the Conference of Charities and Corrections; honorary president of the Children's Aid Society of Ontario; died at his home, October 9, aged 76.

William R. Miles Kellogg, M.D. Johns Hopkins Medical School, Baltimore, 1904; a member of the American Medical Association; city bacteriologist of Seattle; founder and secretary of the Washington Association for the Prevention and Relief of Tuberculosis; a veteran of the Spanish-American War; died in the Seattle General Hospital, October 14, from chronic amebic dysentery contracted during his war service, aged 33.

Abel M. Crawford, M.D. Rush Medical College, 1850; of Leoni, Mich.; for some time postmaster and surgeon for the Detroit, Grand Haven and Milwaukee Railway at St. Johns, Mich.; first treasurer of Gratiot County; surgeon of the Eleventh Michigan Volunteer Infantry during the Civil War; died at the home of his daughter in Jackson, June 7, from cerebral hemorrhage, aged 80.

Azarie Brodeur, M.D. Laval University, Quebec, 1879; University of France, Paris, 1886; Faculté de Médicine de Paris, 1887; one of the most prominent surgeons of Canada; a Knight of the Legion of Honor; member of the Anatomical Society and the Clinical Society of Paris; died at his home in Montreal, October 16, from hemorrhage of the stomach, aged 58.

Robert W. Green, M.D. University of Buffalo, 1889; a member of the Medical Society of the State of New York; a veteran of the Civil War; sometime health officer of Geneseo, village trustee, physician of Livingston County and member of the local and district boards of education; died at his home in Geneseo, October 5, from angina pectoris, aged 64.

Josephus P. Stewart, M.D. University of Louisville, 1884; a member of the American Medical Association and of the American Association of Railway Surgeons; local surgeon of the Rock Island System at Clay Center, Kan.; and president of the Clay Center Hospital Association; died suddenly on a Rock Island train near Topeka, October 9, aged 64.

John J. Lace, M.D. Philadelphia University of Medicine and Surgery, 1870; of Pascoag, R. I.; a veteran of the Civil War; for a number of years a member and chairman of the school committee; in 1898 elected a member of the house of representatives, and a year later senator from Burrillville; died in Glendale, R. I., October 18, aged 70.

James R. Willits, M.D. Indiana Central Medical College, Indianapolis, 1851; assistant surgeon in the Army during the Civil War; since 1871 a practitioner of Fredonia, Kan.; for many years a member of the local pension board; and surgeon to the Santa Fe system; died at his home, September 22, aged 78.

John Eberle West, M.D. Medical College of Ohio, Cincinnati, 1867; a member of the local board of pension examining surgeons; president of the Hudson County (N. J.) board of health; a veteran of the Civil War; died at his home in Jersey City, October 14, from dilatation of the heart, aged 65.

John L. Weitman, M.D. Jefferson Medical College, 1890; of Great Falls, Mont.; a member of the Montana State Medical Association; for many years chief surgeon of the Great Northern Railroad; died at the home of his brother in Oakland, Cal., from disease of the stomach, October 7, aged 53.

John D. Cameron, M. D. McGill University, Montreal, 1878; a member of the Michigan State Medical Society; local surgeon at Iron Mountain for the Chicago, Milwaukee and St. Paul and Chicago and Northwestern railways; died suddenly from heart disease, at his home, October 4, aged 57.

George W. Nichols, M.D. Vermont Academy of Medicine, Castleton, 1861; a pioneer practitioner of Minnesota; and for more than thirty years a member of the Minnesota State Medical Association; died at the home of his son in Sonoma, Cal., September 14, from arteriosclerosis, aged 72.

Daniel L. De Saussure, M.D. Medical College of the State of South Carolina, Charleston, 1857; a member of the South Carolina Medical Association; surgeon in the Confederate service during the Civil War; died suddenly at his home in Camden, October 16, from pulmonary edema.

George W. Pruett, M.D. University of Louisville, 1896; a member of the Kentucky State Medical Association; surgeon of the Second Infantry, Kentucky State Guard; died at his home in Mannsville, October 16, from the effects of an accidental gunshot wound of the head, aged 37.

Alexander W. Beck, M.D. New York University, 1891; of New York City; a member of the American Medical Association, American Medico-Pharmaceutical League and German Medical Society; died at St. Vincent's Hospital, New York City, from nephritis, October 14, aged 56.

Walter Gibson Melvin, M.D. University of the South, Sewanee, Tenn., 1901; Tulane University, New Orleans, 1903; a member of the American Medical Association; of Grand Junction, Colo.; died in Denver, August 20, two days after an operation for appendicitis, aged 32.

Marcus Tessler, M.D. Keokuk (Iowa) Medical College, 1896; Rush Medical College, 1897; a member of the American Medical Association; was found dead in his office in St. Paul, October 19, from the effects of poison, supposed to have been self-administered with suicidal intent.

Titus V. Williams, M.D. Richmond (Va.) Medical College, 1858 or 1859; colonel in the Confederate service during the Civil War; for twenty-five years a practitioner of Edinburg, Mo.; died at the home of his son in Valeria, Iowa, May 9, from cerebral hemorrhage, aged 72.

Robert W. Purdy (examination Ohio, 1896); a member of the Ohio State Medical Association; for more than fifty years a practitioner of Bradyville, Ohio; a veteran of the Civil War; for one term coroner of Adams County; died suddenly at his home, October 12, aged 77.

Samuel Passmore May, M.D. Victoria College, Toronto, 1863; for many years inspector of the public libraries of Ontario, and several times in charge of dominion and provincial exhibits at world's fairs; died at his home in Toronto, October 20, after a long illness.

Manuel V. Fernandez, M.D. University of Madrid, Spain, 1862; a pioneer practitioner of Los Angeles; at one time superintendent of the San Andreas Hospital, Lima, Peru; died October 11, at his home in Monrovia, Cal., from cerebral hemorrhage, aged 71.

Francis Alfred Gile, M.D. New York Homeopathic Medical College, 1875; a veteran of the Civil War; formerly president of the New Jersey State Homeopathic Medical Society; died at his home in Bloomfield, N. J., October 12, from heart disease, aged 63.

Alexander C. Davison, M.D. St. Louis Medical College, 1867; said to have been the oldest practitioner of Jefferson City, Mo.; for four years surgeon in the Confederate service during the Civil War; died at St. Mary's Hospital, Jefferson City, October 12.

Benjamin C. Wright, M.D. Hospital College of Medicine, Louisville, 1891; formerly coroner of Clark County, Ind.; a member of the Indiana State Medical Association; died at his home in New Albany, October 4, aged 45.

W. A. Hyde, M.D. College of Physicians and Surgeons, New York, 1855; surgeon of the Twenty-first Iowa Volunteer Infantry during the Civil War; died at his home in East Hollywood, Los Angeles, Cal., March 12, aged 78.

Howard George Neiman, M.D. Jefferson Medical College, 1906; resident physician at the Philadelphia Home for Incurables; died from accidental aconitin poisoning, taken in mistake for codein, October 15, aged 24.

James E. Hardy, M.D. Homeopathic Medical College of Pennsylvania; University of Edinburgh, Scotland; formerly of Norfolk, Va.; died at his home in Glasgow, Scotland, September 11, from cancer of the tongue, aged 66.

Joseph Benson Small; who practiced medicine for a short time in Morristown, Vt.; vice-president of the Winooski Savings Bank; died from senile debility at his home in Winooski, Vt., September 21, aged 84.

Irving J. Cook, M.D. University of Vermont, Burlington, 1893; of New York City; died from the effect of poison or a gunshot wound, October 22, at a hotel in New York City. The case is believed to be one of suicide.

David Franklin Moss; a pioneer eclectic practitioner of Jasper County, Mo.; surgeon of the Sixth Kansas Volunteer Cavalry during the Civil War; died at his home in Moss Springs, Mo., September 6, aged 92.

Henry E. Yarbrough, M.D. Maryland Medical College, Baltimore, 1903; of Markham, Texas; a member of the State Medical Association of Texas; was shot and killed in an affray in Markham, October 9, aged 34.

John Edward Caldwell, M.D. New York University, 1870; said to have been the oldest practitioner of Mecklenburg County, N. C.; died at his home near Huntersville, October 9, from pneumonia, aged 69.

Samuel Holmes Kelly, M.D. Jefferson Medical College, 1851; for many years a practitioner of West Liberty and Wheeling, W. Va.; died at his home in Echo Point, W. Va., October 5, from influenza, aged 80.

Alexander K. Ferguson, M.D. Trinity Medical College, Toronto, 1894; of Toronto; while riding a bicycle, October 7, collided with a street car, and died while being conveyed to the hospital, aged 45.

Henry Herriford, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1876; a member of the Iowa State Medical Society; died at his home in Leando, Iowa, October 7, from tuberculosis, aged 56.

James Sherbourne Riggs, M.D. College of Physicians and Surgeons, Chicago, 1883; a veteran of the Civil War; one of the earliest practitioners of Redlands, Cal.; died at his home, October 8, aged 77.

Edwin Person, M.D. Kentucky School of Medicine, Louisville, 1880; a veteran of the Civil War; formerly a practitioner of Dodge, Neb.; died at his home in Omaha, October 21, aged 64.

James W. Hadlock, M.D. Cincinnati College of Medicine and Surgery, 1863; for eight years a member of the department of charities of Oswego, N. Y.; died at his home, October 8, aged 70.

Samuel E. Wood; a practitioner of Waterloo, Ind., from 1863 to 1866 when he retired; veteran of the Civil War; died at his home in Chicago, September 26, from pneumonia, aged 69.

W. H. Sherman, M.D. Bellevue Hospital Medical College, New York, 1867; a veteran of the Civil War; died at the Toledo (Ohio) Hospital, June 14, from cerebral hemorrhage, aged 67.

Andrew Joseph Ronan, M.D. Albany (N. Y.) Medical College, 1897; who served in the U. S. Army in the Philippine Islands; died at his home in Albany, N. Y., May 27, aged about 35.

Herbert A. Russell, M.D. Long Island College Hospital, Brooklyn, 1896; and for two years thereafter prosector; died at his home in New York City, October 14, from pneumonia, aged 37.

John A. Brobst, M.D. Pennsylvania Medical College, Gettysburg, 1857; for fifty years a practitioner of Bernville, Pa.; died at his home October 18, from cardiac asthma, aged 72.

Jesse P. Herring, M.D. New York University, 1877; a member of the Kentucky State Medical Association; died suddenly at his home in Oakville, Ky., October 15, aged 51.

Hugh Thompson Murray, M.D. Baltimore College of Medicine; for 18 years house physician of the Arlington Hotel, Washington; died suddenly November 21, 1907, aged 60.

William McKnight, M.D. Rush Medical College, 1862; for many years a practitioner of Granville, Ill.; died at his home in Normal, Ill., October 16, from uremia, aged 85.

James A. Kerr, M.D. Kentucky School of Medicine, Louisville, 1881; of Columbia, Mo.; died at St. Mary's Hospital, Jefferson City, Mo., September 21, aged about 70.

Theodore Clarence Haecker, M.D. Rush Medical College, 1903; of Chicago; died at the Frances E. Willard Hospital in that city, February 6, from pneumonia, aged 36.

John Sutherland, M.D. University of Pennsylvania, 1876; of Bedeque, Prince Edward Island; was found dead in bed in a hotel in Montreal, October 5, aged about 60.

John E. Groves, M.D. Bennett Medical College, Chicago, 1887; of Altamont, Ill.; died in a hospital in St. Louis, October 14, about two months after a surgical operation.

Patrick Francis Whalen, M.D. New York University, 1887; of Chicopee, Mass.; died recently and was buried from the home of his parents in Chicopee, February 8.

A. W. Laybourne (years of practice, Ohio); said to have been the oldest practitioner of Clark County, Ohio; died at his home in Springfield, October 8, aged 90.

William H. Andrews (license, Mich.; years of practice, 1900); a practitioner of Fennville, Mich., for thirty-one years; died at his home September 22, aged 68.

Robert Swenton Campbell, M.D. Western Reserve University, Cleveland, 1908; died at the home of his parents in that city, October 17, from typhoid fever, aged 25.

Miranda P. Wiswell, M.D. University of Michigan Homeopathic Medical College, Ann Arbor, 1889; died at her home in Philadelphia, September 28, aged 52.

Robert A. Reynolds, M.D. Leonard School of Medicine, Shaw University, Raleigh, 1888; a colored practitioner of Danville, Va.; died at his home, September 27.

Arthur Kelty, M.D. Western Reserve University, Cleveland, Ohio, 1873; of Youngstown, Ohio; died suddenly from heart disease in Xenia, October 9, aged 72.

Emma Rosson (license, Mass., 1894); for more than 25 years a practitioner of Wakefield, Mass.; died in Union Hospital, Boston, October 19, aged 60.

George A. Elliott, M.D. New York University, 1892; of New York City; visiting physician to Fordham Hospital; died in Glen Cove, N. Y., October 15.

Melissa Cranston Gideon; a pioneer practitioner of Illinois; and for eighteen years a resident of Seattle; died April 16, from senile debility, aged 80.

Dennis McCarthy, M.D. Botanico-Medical College of Ohio, Cincinnati, 1850; died at his home in Dayton, from senile debility, October 17, aged 87.

Matthew Huber, M.D. University of Louisville, 1855; died at his home on the Bardstown Road, near Louisville, October 19, from pneumonia, aged 79.

George W. Holstein, M.D. University of Pennsylvania, 1843; a retired practitioner of Bridgeport, Pa.; died suddenly at his home October 2, aged 88.

Aristide Beaugrand Champagne, M.D. University of the Victoria College, Coburg, 1875; died at his home in Montreal, October 14, aged 58.

Thomas J. Clark, M.D. Eclectic Medical Institute, Cincinnati, 1874; died at his home in Summitville, Ind., recently, from lung trouble.

Green Hazlewood, M.D. Medical College of Indiana, Indianapolis, 1870; died at his home near Chambersburg, Ind., October 16, aged 73.

Robert W. George, M.D. Cincinnati Medical College, 1860; died at his home in Elgin, Ill., September 24, from paralysis, aged 76.

Elijah F. Davis, M.D. Eclectic Medical Institute, Cincinnati, 1857; died at his home in Lakewood, Cleveland, October 18, aged 79.

William Carson Underwood, M.D. Eclectic Medical Institute, Cincinnati, 1893; died recently at his home in Dayton, Ohio, aged 41.

Pleasant Kernal, M.D. Knoxville (Tenn.) Medical College, 1855; died at his home in Prairie City, Ill., September 25, aged 72.

Joseph F. Black, M.D. Medico-Chirurgical College, Philadelphia, 1897; of Erie, Pa.; died October 6, from heart disease.

Lark Moon, M.D. Starling Medical College, Columbus, Ohio, 1891; died at his home in that city, October 15, aged 42.

John Brand Young, M.D. Rush Medical College, 1876; died at his home in Golconda, Ill., October 12, aged 65.

Oscar H. Gibbs, M.D. New York University, 1871; died at his home in Middletown, N. C., October 8.

Book Notices

PRINCIPLES OF PATHOLOGY. By J. George Adami, M.A., M.D., LL.D., F.R.S., Professor of Pathology in McGill University. Vol. I. General Pathology. Cloth. Pp. 948, with illustrations. Price, $6.00. Philadelphia: Lea & Febiger.

A careful review of this volume of over 900 large pages, which is devoted to the subject of general pathology *alone*, leaves as the most distinct impression the fact that this is Adami's "pathology." Here is no submissive following of text-book traditions, no thoughtless adoption of "accepted teachings," no more repetition and revision of what has been written by every book-maker and declaimed by every medical school lecturer. A broadly trained scholar has studied and taught pathology for many years as a scientist, has thought independently and reasoned vigorously, and this book represents the individual opinions and beliefs of its writer, clearly presented and stoutly maintained. It is an absolutely unique undertaking in the literature of pathology, and one divides his admiration between the industry, independence and originality of the writer, and the courage of the publishers in undertaking the preparation and production of so extensive a work of so unusual and advanced a character.

The "Principles of Pathology," as projected, will consist of two volumes; the first, now before us, dealing with "General Pathology," while a second volume on the special pathology of the organs and tissues is promised at an early date. Perhaps the best idea of the method of discussion adopted in this work will be obtained from the author's own explanation of his attitude toward text-books, which is: "There are different orders of minds, and no work can appeal to all. For myself, in beginning my studies, I found that I could easily remember the *matter* of such works as the larger Lyell's 'Principles of Geology,' Foster's 'Physiology,' and Fagge's 'Medicine,' to cite examples in which there was a reasoned treatment of the subject, whereas, to attempt to commit to memory 'cram books,' laden with facts and names, was mental agony. I saved time and gained knowledge by reading my subject at large. It is to those possessing a like order of mind that this work is addressed."

From this peroration it may be foreseen that Adami's "Pathology" does not consist of a classification of pathologic conditions in which cause, pathologic anatomy and results follow one another in neat but untruthfully exact order. Rather Adami has discussed the subject in a broad way, with emphasis on the things that have interested him, slighting things that have not, but always in a manner that is original, independent and vigorous. Most of the chapters, particularly in the introductory sections (which occupy no less than 355 pages) partake of the nature of short monographs or addresses on topics concerning which Adami has ideas of his own to advance or to defend; in the sections devoted to more definite topics the discussion is more systematic and more satisfying. Professor Adami's viewpoint is quite different from that of the average medical-school and autopsy-room pathologist, being much modified by his familiarity with general biology in its broadest sense, from which he has gained many diverging and independent ideas that are interesting and stimulating to those with a different training and viewpoint, however much they may find to question or dispute. In contrast to the typical German text-book of pathology, in which pathologic anatomy is made the chief and often almost the only theme, Adami's work relegates the description of postmortem appearances and histologic findings to the background, and places emphasis on pathologic physiology and chemistry, a feature which is greatly to be commended.

It is obvious that so extensive a work can not be discussed chapter by chapter in the space of a review, and hence generalities must in the main suffice. The following special points, however, may be mentioned: The introductory chapters are numerous, extensive, but for the most part argumentative rather than systematic, much attention being given to the presentation and defense of certain hypotheses regarding various fundamental biologic principles; they are, nevertheless, well worth reading for their stimulating originality and for the nuggets of facts from many unusual and widely scattered sources. *Cell growth, adaptation* and *inheritance* are considered with an extensiveness and originality uncommon in medical literature. Monstrosities and abnormalities are discussed thoroughly, clearly and well, this being one of the best sections of the entire book, and the only one in which the illustrations are of much account. (This last defect is due to the destruction of most of the illustrations that had been collected for this book by the burning of the McGill University Medical School.) But little space is given to animal parasites and there is no discussion of specific bacterial infections and their characteristic lesions—possibly these matters are reserved for the second volume. The general subject of reaction to injury and infection is, however, most admirably covered in much the same way as in Adami's article on inflammation in Allbutt's "System," which article is now one of the classics of English medical literature. Immunity is satisfactorily discussed in regard to the general theories and the history of the subject, although the proposed modification of Ehrlich's theory seems to be even more hypothetical than the original. Regeneration and transplantation are well discussed, and lead logically to the consideration of neoplasms, a sequence not appreciated by most writers of text-books. In this section on tumors is much that is independent and valuable. The method of classification of tumors that has come into almost universal usage is admittedly an illogical compromise between various systems of classification, which throws unlike growths together, separates related growths, fails entirely to cover some cases, more often leaves it uncertain in which of several groups a tumor should be placed, and is in general unsatisfactory and unscientific. Adami has refused to accept this condition of things, and has proposed and for several years has urged a system of classification which is logical and which succeeds in bringing order out of the chaos of disarrangement in which the neoplasms find themselves. It would be a blessed thing for future generations if Adami's or some other logical system of classification of tumors could be adopted, but we fear that the needed reforms will come slowly, especially while incapable and unprogressive examiners continue to propose the questions and grade the answers for state board examinations. One can not fail to approve Adami's reasons for discarding the pedantic "ata" termination for the plural of the names of tumors, while marvelling at the headings of alternate pages with "teratomas" and "teratomata." Many special points concerning tumors, and especially their relations to certain other forms of tissue growth, are handled in an unusual manner, but space does not permit of their discussion. The volume concludes with a consideration of the retrogressive processes, which is thoroughly modern and more complete than in most text-books on pathology, although strongly flavored with Adami's own ideas and experiences.

It is evident that this book is not intended to replace the more elementary and more systematic text-books on general pathology in common use among medical students, but to supplement them, and to remedy their greatest defect, the absence of stimulus to independent thinking and to generalization. In its chosen field it has a great service to perform, and we believe that it will succeed notably. No teacher of pathology will be without it; every teacher of any branch of medicine should be familiar with its contents, since general pathology is fundamental to all branches, and such students as wish to lift themselves out of the common rut will find stimulus to independent thinking on every page. However acceptable Professor Adami's personal interpretations of certain specific pathologic phenomena may or may not be, the living personality of the pages, after all, constitutes the greatest virtue of this book, and even those who disagree as to various and sundry details will admit the vivifying influence of the whole work. Adami's discoursive style makes the book in the main interesting reading, although there is much unevenness in respect to interest and to clearness. At times there seems to be an effort to maintain literary pretension, and it generally seems that the same ground might be covered as well with fewer words, but if the extent of the work, the technicality of the subject, and the length of time required for its preparation are considered, these minor faults are insignificant and excusable. Of course, in 900 pages some errors will appear, such, for instance, as crediting Ricketts' valuable book on immunity to Professor Hektoen (p. 528), but on the whole they are remarkably few, and, to conclude with a trite phrase, "the presswork is excellent."

ANATOMY, DESCRIPTIVE AND SURGICAL. By Henry Gray, F.R.S., Lecturer on Anatomy at St. George's Hospital Medical College, London. 17th Edition. Revised and Re-edited with additions by John Chalmers DaCosta, M.D., Professor of Principles of Surgery and of Clinical Surgery in Jefferson Medical College, Philadelphia, and Edward Anthony Spitzka, M.D., Professor of General Anatomy in Jefferson Medical College, Philadelphia. Cloth. Pp. 1614, with illustrations. Price, $6.00. Philadelphia: Lea & Febiger, 1908.

That a text-book on descriptive anatomy should have reached the seventeenth edition is sufficient evidence of its value. While successive revisions have added much new matter and perhaps left but little of the original text written by Henry Gray over fifty years ago, the book still bears the name which has become to generations of American medical students almost synonymous with the study of anatomy. The seventeenth edition has been revised and re-edited by Dr. John Chalmers Da Costa and Dr. E. A. Spitzka. Most of Spitzka's work has been on the chapter of the nervous system, which has been largely rewritten for this edition. Teachers and students of anatomy will probably agree that the chapters on the development and topographic anatomy of the brain were the least satisfactory of any parts of the work in previous editions. In the present edition, this department is brought up to date so far as the developmental theories of the nervous system are concerned, and is also much better and more graphically illustrated than formerly. Beside many cuts from Testut, Poirier and Charpy, Duval and the earlier editions of Gray, there are a number of new illustrations which are of excellent quality—notably, the cut on page 879 showing different varieties of anatomic markings on the floor of the fourth ventricle; a number of schematic drawings, showing the direction of nerve fibers and the location of the various nuclei; the drawings on page 904 showing the brain-stem and the adjacent structures, and the perpendicular cross-section on page 913, showing the optic thalamus and caudate nuclei and their relation to the ventricles. Particularly graphic are the cuts on pages 933 and 943-45-53, showing the relative position of the deeper structures, as though seen through a transparent brain. The consideration of cortical localization is also much better than in previous editions.

The chapter on the peritoneum, both in text and illustrations, more nearly approximates to that in the twelfth edition, which contained by far the most satisfactory consideration of this subject. The development of the peritoneum and its ultimate adult arrangement are considered at length, as is also the subject of retroperitoneal fossæ.

The chapters on osteology and myology are copiously illustrated, some of the cuts being taken from Spalteholz and many being new and original cuts. Particularly noticeable is the increasing amount of space given in each successive edition to the lymphatic system, showing the increasing importance of applied anatomy both to the surgeon and the general practitioner.

Miscellany

Defective Vision in Philadelphia School Children.—In view of the fact that investigation showed that 60 per cent. of children examined in the Philadelphia schools had eyestrain or defective vision, the city in 1907 established an ophthalmologic division of the bureau of health. The city council appropriated $300 for glasses for children unable to pay for them, and with this money 354 children were fitted with glasses. These children, without glasses, could not read from the blackboard and could not see the print in their books; in many instances they were thought backward and often mentally deficient. The correction of these defects by the fitting of proper glasses was followed by remarkable improvement in the work and conduct of the pupils. Children in special schools were enabled to return to the regular schools. Dr. Joseph L. Neff, director of the Department of Public Health and Charities, sends us a copy of the report of the first three months' work, which he considers has demonstrated that many so-called mental defectives and incorrigibles do not really belong in that category. The report emphasizes the fact that the expense incurred is more than counterbalanced by the increased worth of an educated citizen over an illiterate one who may become a public charge, or whose earning capacity is so curtailed that he can contribute but a small amount to the support of the state. Dr. Neff believes that in many cases such children would have joined the criminal classes or in some way have become a burden on the community. In addition to remedying defects of vision, infectious eye diseases, including trachoma, were treated and minor operations were performed. The report includes letters to the department from school principals stating the benefit obtained by individual pupils.

Henry Gray, Anatomist.—Dr. Frank K. Boland of Atlanta, Ga., being struck by the meager information obtainable in reference to the author of "Gray's Anatomy," with considerable pains succeeded in accumulating from various records and from the few living people who had known Gray, the following information, which he published in the *American Journal of the Medical Sciences* for September.

Henry Gray was probably born in 1827, although it is not stated positively. His father was private messenger to George IV and William IV. He had one sister, who died at the age of 21 years, and two brothers. Young Gray does not seem to have been beset with the financial obstacles which so often handicap men of talent. His student and professional course to success was uninterrupted.

Gray's signature appears on the pupils' book at St. George's Hospital, as entering on May 6, 1845, as a "perpetual student." There is no evidence to support the absurd story that Gray was a poor student and failed in some of his examinations; the facts tend to prove the very opposite. In 1848, at the age of 21, he was awarded the triennial prize of the Royal College of Surgeons of England, for a paper on "The Origin, Connection and Distribution of the Nerves of the Human Eye and Its Appendages, Illustrated by Comparative Dissections of the Eye in the Other Vertebrate Animals." Although this prize was first instituted in 1822, it has had only eight recipients.

Young Gray assuredly possessed great talent and untiring energy. The opinion of all those who remember him agrees in describing him as a most laborious and methodical worker, and one who learned his anatomy by the tedious but invaluable plan of making his dissections himself. Judging from his results he had no time for anything but his work.

In June, 1850, he was appointed house surgeon to St. George's Hospital, which position he held for the customary twelve months. On June 3, 1852, he received the distinction of being elected a Fellow of the Royal Society at the remarkably early age of 25 years. His hospital record and his activities in original research must have been highly esteemed to have secured him such honor.

Gray won the Astley Cooper prize of 300 guineas, in 1853, for his dissertation on "The Structure and Use of the Spleen," a work which ranks next in importance to his "Anatomy." This prize is awarded triennially, and is open to the world, students of Guy's Hospital alone being debarred from competing. Other papers which Gray had written up to this time were: In 1850 "The Development of the Retina and Optic Nerve, and of the Membranous Labyrinth and Auditory Nerve;" in 1852, "The Development of the Ductless Glands in the Chick;" and in 1853, "An Account of a Dissection of an Ovarian Cyst which Contained Brain."

From 1853 to 1858 Gray was lecturer on anatomy at St. George's Hospital. It is also recorded that he was surgical curator of the pathologic museum during this period. No doubt his services as demonstrator of anatomy were very much in demand, for he had established a considerable reputation while a student. His time must have been given largely to the dissecting room, and we learn nothing of his experience in clinical work.

Gray after this devoted his energies to the preparation of the work by which he is really well known, the masterpiece, "Anatomy, Descriptive and Surgical." Since this work is the only one of its kind which has come down to us from this time. the idea exists that no good books on the subject had been written before Nothing could be more erroneous. Many excellent anatomies were in common use at the time Gray's made its appearance, and the new work was pitted against keen competition. Quain and Sharpey's anatomy was probably the most popular book, although others, such as Wilson and Winslow's, and the translations of the French writers, Cruveilhier, Bichât and Cloquet, had strong following.

Gray undoubtedly felt that there was room for improvement in these treatises, particularly in the matter of arrangement and illustrations. He had a good conception of the principles of pedagogy, and desired, in so far as he could, to smooth, for his students the hard road to anatomic knowledge. A comparison of Gray's work with that of his predecessors shows that he achieved his purpose in an admirable manner. He was not the father of anatomy, and it was not the presentation of any new anatomic discoveries, but the clearer and more systematic presentation of old ones, backed strongly by unparalleled drawings, which secured for his book its phenomenal success. To D[illegible] Vandyke Carter, who made the drawings, a large part of the credit for the success of the work must be given.

The first edition was published by John W. Parker & Son in 1858, and was the only edition that Gray ever saw. The book was a success from the first. Such clear treatment of descriptive anatomy had not been known before, and there has been but small improvement, except for additions, made in it since. The introduction of the remarks on surgical anatomy was the first ever attempted by an English author, and proved to be a popular feature.

The cuts far exceeded in number and excelled in accuracy and vividness any which had appeared previously. It is astonishing to see how many of these drawings are in the "Gray" of to-day.

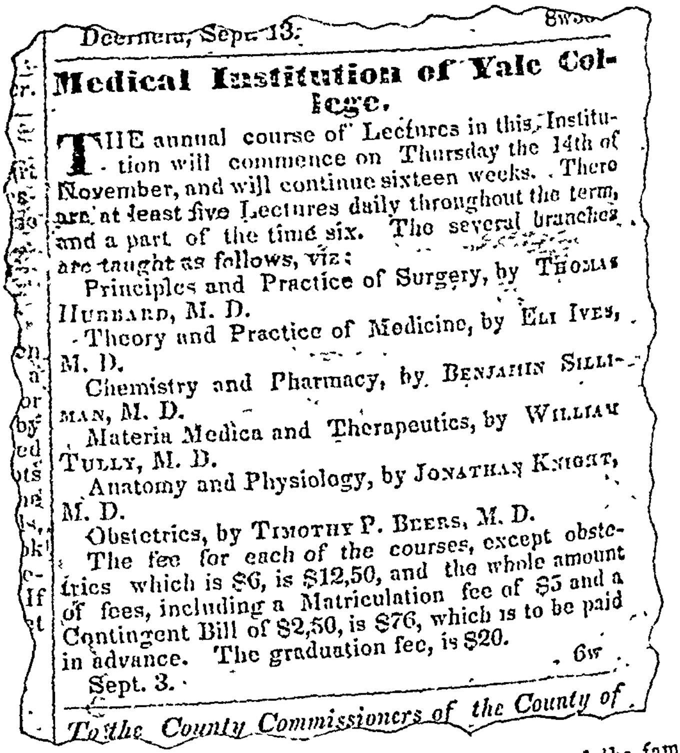
Nevertheless, the critics were by no means unanimous in their praise. The *Lancet*, in its review, spoke in the most favorable terms, but the *Medical Times*, which was then the chief rival of the *Lancet*, took an altogether different view its reviewer indulging in what was then known as a "slashing criticism."

In 1861 Gray was a candidate for the post of assistant surgeon to St. George's Hospital, two vacancies having at that time occurred. He would certainly have been elected, but unhappily was attacked by confluent smallpox, which he contracted while looking after his nephew, who had fallen a victim to the same disease. After a very short illness, Henry Gray died, on June 13, 1861, at the age of 31 years.

He was at work on the second edition of his book at the time of his death, and had made good progress on a work on tumors. The manuscript of this can not now be found, and no part of it was ever published. Before his death Gray had been made a Fellow of the Royal College of Surgeons by examination, and surgeon to St. James' Infirmary.

There is nothing recorded about his ability as a diagnostician or operator. The plan of his professional career, which is worthy of emulation, seems to have been first to ground himself thoroughly in the fundamental branches of anatomy and pathology, after which he would be equipped for the best possible work in the field of practical surgery. He was about to quit the dissecting room for the operating amphitheater when his life was brought to a sudden close.

An Old Medical College Advertisement.—The accompanying illustration is made from a newspaper printed in 1833. The paper is in the possession of Dr. Howard N. Lyon, Chicago, and was found in the back of an old mirror, one of the family heirlooms. The heading of the paper is missing, but it was probably issued at Northfield, Mass.



Deerfield, Sept. 13. 8w3

Medical Institution of Yale College.

THE annual course of Lectures in this Institution will commence on Thursday the 14th of November, and will continue sixteen weeks. There are at least five Lectures daily throughout the term, and a part of the time six. The several branches are taught as follows, viz:

Principles and Practice of Surgery, by THOMAS HUBBARD, M. D.

Theory and Practice of Medicine, by ELI IVES, M. D.

Chemistry and Pharmacy, by BENJAMIN SILLIMAN, M. D.

Materia Medica and Therapeutics, by WILLIAM TULLY, M. D.

Anatomy and Physiology, by JONATHAN KNIGHT, M. D.

Obstetrics, by TIMOTHY P. BEERS, M. D.

The fee for each of the courses, except obstetrics which is $6, is $12,50, and the whole amount of fees, including a Matriculation fee of $5 and a Contingent Bill of $2,50, is $76, which is to be paid in advance. The graduation fee, is $20.

Sept. 3. 6w

To the County Commissioners of the County of

Society Proceedings

COMING MEETINGS.

Nevada State Medical Association. Goldfield. Nov. 10-11.
Ohio Valley Medical Association, French Lick, Ind., Nov. 11-12.

IDAHO STATE MEDICAL ASSOCIATION.

Sixteenth Annual Meeting, held at Boise, Oct. 8-9, 1908.

The president, Dr. E. W. Kleinman, Hailey, in the chair.

Election of Officers.

The following officers were elected: President, Dr. J. L. Stewart, Boise; vice-president, Dr. G. H. Coulthard, Idaho Falls; secretary, Dr. E. E. Maxey, Boise. re-elected.

Seattle, Wash., was selected as the 1909 meeting place.

President's Address.

Dr. E. W. Kleinman, Hailey, discussed reciprocity in medical licensure, going into the subject deeply, and expressing himself in favor of reciprocity between all states complying with the Idaho standard of qualifications. He urged the Association to adopt a resolution favoring such reciprocity that the position of the members of this Association might be known to other states and to the law-makers of Idaho. He also urged the members to encourage and support the American Medical Association in its effort to supply the profession with a reliable medical directory, and further recommended that the Idaho State Medical Association take steps to secure a provision in the medical law which would require the governor of the state to make appointments to the state board of medical examiners from a list of eligible names to be recommended by the Idaho State Medical Association.

Surgery of the Kidney.

Drs. G. H. Coulthard and C. M. Cline, Idaho Falls: With few exceptions, pathologic conditions of the kidney are accepted as being surgical conditions. In all kidney surgery, however, the preservation of normal tissue is important because of the high death rate following removal of excreting kidney substance. and for this reason renal plastic surgery has a prominent future, particularly in hydronephrosis and pyelonephrosis. All patients with renal calculi must be treated surgically, for we have no means of dissolving the stone. In floating kidney, if the individual is suffering no distress or has no important urinary changes, nephropexy is not indicated. Tuberculosis of the kidney should be treated by radical surgery only. The cystoscope. ureteral catheterization, the segregator, examination of urine for tubercle bacilli, and the *x*-ray are useful helps in diagnosis of this condition.

DISCUSSION.

Dr. L. P. McCalla, Boise: Diagnosis is most important because we have to deal with surgical conditions which should be recognized and treated early. In the majority of cases, hematuria indicates either tuberculosis, hypernephroma, or stone. Catheterization of ureters is difficult and should be performed only by the expert. Segregation is more easily done but is not so reliable. I saw two cases of hypernephroma recently in which the tumor was large and firmly adherent. Operation was attempted in one and abandoned because of the firm adhesions, and I believe that operation is usually difficult in these larger growths on that account. The diagnosis of tuberculosis of the kidney is often difficult. Examination of the urine is unsatisfactory and often unreliable on account of the presence of smegma bacillus.

Dr. B. F. Campbell, Rexburg: The statement that nephritis in the other kidney is not a contraindication to the removal of a kidney if tuberculous is too broad and should be modified.

Dr. G. H. Coulthard: There was some outline of the kidney substance yet remaining and the tumor was vascular and adherent. As to removal of tuberculous kidney where the other kidney shows nephritis, I think that there is an even division of opinion among authorities. and the procedure must be governed in each case by the patient's condition.

(*To be continued.*)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Louisville, Ky., Oct. 13-15, 1908.

The President, **Dr. Arthur R. Elliott**, Chicago, in the chair.

Prayer was offered by the Rev. John K. Mason, D.D. Addresses of welcome were delivered by Hon. James F. Grinstead, mayor, in behalf of the city of Louisville. and in behalf of the state by Hon. Augustus E. Wilson. governor. Dr. Lewis S. McMurtry responded for the association.

The officers elected were named in The Journal last week.

The scientific work of the association was divided into two sections, medical and surgical; we commence with the report of the surgical section.

Hernia of the Pelvic Floor.

Dr. Channing W. Barrett, Chicago: From study of embryology, we learn that the tail muscles of the quadruped develop into the levator ani muscle of man. Hernia may develop at any place in the abdominal wall due to weak defective walls and increased abdominal pressure, but the pelvic floor, because it is the lowest part of the abdominal wall, and has natural openings, which at times are much dilated, furnishes a frequent site for the development of hernia. Following the overstretching or laceration of the levator ani muscle, the pelvic floor sags and the abdomino-pelvic contents begin to herniate through the defect, first the bladder or rectum, or both, then the uterus and other organs. The terms "laceration of the perineum" and "prolapse of the uterus" are not comprehensive and have led to erroneous treatment. Removal of a prolapsed uterus alone removes only a portion of the contents of the hernia, and still allows a hernial sac to be formed of the vagina with the rectum, bladder and intestines as contents. The condition is not cured by plastic operation on the vaginal mucous membrane or vulvar skin. While defects in the muscles are repaired, it must be remembered that predisposition of the hernia to return is furnished by the vaginal and rectal outlets. The uterus must have its axis put at an agle with that of the vagina. In so-called "prolapse of the rectum," the support furnished by the levator ani is defective. The cure of prolapse of the rectum should deal with this muscle instead of being attempted by futile plastic operations on the rectum. Work on the levator ani should be accomplished in lacerations of the perineum without causing superficial structures to close the vagina. This can be done by making the line of incision at the junction of the vagina and vestibule instead of on the labia majora, as is frequently done, thus leaving the normal entrance into the vagina. Superficial perineorrhaphies, not dealing with the levator muscle, are worse than useless.

Vaccine Therapy in Surgical Infections.

Dr. John C. Hollister. Chicago: The article is a brief summary of clinical conclusions of a series of cases of infection with staphylococcus. tubercle bacillus and gonococcus treated by vaccine therapy and based for the most part on the opsonic index. Only those cases are considered in which vaccine had been given long enough to draw clinical conclusions, and care has been taken to avoid overstatement of facts. Thirty-four staphylococcus infections were persistently treated; 25 by autogenous and 9 by stock vaccines; cases consisted of 12 of acne. 15 of boils or large furuncles. 2 of empyema. 1 mixed infection with case of lupus, and 2 fistulas mixed. The results: Thirty-eight per cent. cured; 38 per cent. improved; 20 per cent. not improved. Of the 25 patients treated by autogenous vaccines, 32 per cent. were cured; 36 per cent. improved; 32 per cent. did not improve. Of the 9 receiving stock vaccine, 7 were cured and 2 were slightly improved. Forty-one patients with tuberculosis were treated. There were patients with bone and joint diseases. 4 of which had also pulmonary involvement—29 in all; or patients with urinary tract infection: 3 with pulmonary tuberculosis; 4 with tuberculous glands of neck; 1 with generalized (lung. genital tract. skin, conjunctiva) infection. and 1 case of peritonitis. Results: Seventy per cent. improved—15 greatly, 13 slightly; 30 per cent. unimproved. Of the 13 patients unimproved, 10 had generalized infection.

I believe that the opsonic index is by *no means* an unfailing guide for determining the amount of vaccine and the time of administration, for the following reasons: 1. Many cases showing persistent high index show no clinical improvement. 2. Fewer number of patients improve, although the index remains comparatively low. 3. *Many continue* to improve greatly when treated without regard to the index. These reasons apply especially to staphylococcus infection in which we have found as a rule before treatment normal or high indices. We believe there is a normal index, and that the opsonic index, when obtained with careful technic, is a distinct aid in diagnosis, especially in the chronic localized infections. A persistently low or varying index is a strong indication that the patient is suffering from specific infection.

Process for Making New Noses.

Dr. H. R. Allen, Indianapolis: First, make a plaster-of-Paris mask or reproduction of the nose-less space. Second, model half a dozen or more different noses that are appropriate to the other features of the face. Third, if desirable, model other features of the face that need improvement. Fourth, construct a hollow metallic bridge or supporting frame which will reproduce the shape of nose selected when placed beneath the skin. Fifth, operation: Pull the upper lid forward, and about one centimeter below the gingiolabial fold, make an incision about one-third the thickness of the lip and run parallel with the gum margins of the upper teeth. Let this incision terminate about the first molar tooth. Complete the incision vertically and dissect the soft tissues of the nose and face free from the skull. Care should be taken not to injure the nerves from the infraorbital foramen nor tear the ducts. Sixth, place the nostril hook into the nostrils and pass the points around so that they come out underneath the upper lip. Seventh, make traction upward and outward on the hook and the entire field for supporting the nose frame comes into plain view. Eighth, stretch the nasal tissues forward and prepare the foundation for the bridge or metallic support for the nose. Ninth, place the new hollow metallic bridge under the lip, where it is to rest permanently. Tenth, suture the original wound. If there are no soft tissues and consequently nothing under which to place a metallic bridge, the constructive principles differ, inasmuch as it is necessary to dissect out the skin on each side of the nasal orifice and draw the skin together and suture it in the median line. Perinostril openings must be made. Later when a firm union is established, the regular gingiolabial incision is made and the nose construction operation proceeds as described. A normal looking and functioning nose is permanently established. The procedure is simple and there are no disagreeable sequelæ that I am aware of. The voice at first is modified, but soon becomes normal. There is some advantage in the saving of time and tissues. It takes months to make a flap nose and still longer to graft on a finger or other tissues; and the flap and graft noses are not artistic. This method permits the patient to select his own features, because he can have a nose of any shape or size.

DISCUSSION.

Dr. M. F. Coomes, Louisville: I have been engaged in this business for a number of years and have thought many times of attempting to do what Dr. Allen has done, but I have not had the courage to carry out my convictions. I have made plaster cast of noses and patients have worn them successfully. I know of nothing more mortifying and more derogatory to the welfare of the individual than to have a noseless face or flat nose. The method described by Dr. Allen should be tried by other surgeons.

Dr. Joseph R. Eastman, Indianapolis: I have seen one patient treated by Dr. Allen, and in this case the boy's face was so changed that even his friends hardly recognized him. I think the method will be permanently useful. Few men, however, have the artistic sense and mechanical dexterity to be able to arrange a support and fit a nose for it in so artistic a way.

(To be continued.)

MEDICAL ASSOCIATION OF THE SOUTHWEST.

Third Annual Meeting, held at Kansas City, Mo., Oct. 19-21, 1908.

The President, Dr. Thomas E. Holland, Hot Springs, Arkansas, presided and made the annual address.

The Place of the Physician in the Community.

Dr. Thomas E. Holland: The medical profession has produced and is producing many good men in their various lines, many great teachers who know the needs of their sections, and realizing that it is well nigh impossible to teach or cooperate in the sections of the American Medical Association, they have deemed it necessary to bring into existence an association of a more circumscribed number of workers; so the Medical Association of the Southwest was formed, not as an abridgement, but as an adjunct to the good work already accomplished by the American Medical Association. On account of geographical conditions it is but natural that the states comprising this association should bind themselves together for the diffusion of medical knowledge peculiar to their sections of the country as well as to foster fraternal relations among the members.

The work the American Medical Association is accomplishing through the zeal of Dr. J. N. McCormack is excellent. We need to follow his plan. Each state should have a committee of public instruction. The method followed by the Maryland society is an excellent one and should be imitated by other state associations. The duty of this committee of public instruction is to enlighten the public in matters pertaining to the public health. During its first year the work of this committee was carried on mainly by lectures; a series of so-called "major lectures" being given by leading medical men on a variety of health topics of public interest, while what was known as "minor lectures" was carried on among various social organizations, such as church societies and women's clubs.

A new plea for the physician to take his place among men of community interest has been added by the Governor of California, who asked the medical men of that state to put some physicians in line for election to the two branches of the legislature, in order that they may advise with him on matters pertaining to medical legislation.

Physicians made possible the building of the Panama Canal, made Havana a clean city, and diminished the possibilities of introducing yellow fever among us. Physicians have kept cholera in check, pointed out the danger of bubonic plague through the rat-infested districts of San Francisco, and now urge that the government shall maintain sentinels to guard the Gulf Coast from yellow fever, the Mississippi from cholera, the whole of the United States from bubonic plague. Physicians also discovered the stegomyia as a yellow fever carrier, and the rat and the ground squirrel as plague carriers.

What is the maintenance of Yellowstone Park, the need of a standing army, a labor strike, a cotton crop, compared to the danger of a threatened epidemic? Yet, all these other interests have their representatives in the cabinet, and the physician must needs appeal to untrained men for a hearing in regard to matters of vital importance, should legislation therefor be needed. Prevention of disease does not enrich a physician's exchequer, so it may not be said that he works from selfish motives. I am no prophet of evil, but when fever or plague has scourged the country, on account of negligence of men in high places, as the forest fires of Michigan, which destroyed millions of dollars' worth of property, have scourged her people, then, perhaps, will the physician's real place be known and recognized. Organization, education, regulation, are dependent on each other, root and branch. Like the crusaders of old, through organization and education we have taken a step toward the enfranchisement of the human mind; we have sounded the call to health and our abiding faith in mankind makes us know that legislation will follow, and, if we are true to ourselves as guardians of the public health, we can not be false to our trust.

Division of Fees and Giving Commissions.

Dr. Bacon Saunders, Fort Worth, Texas, in the address on commercial surgery, said, in part: In these days of strenuous commercial adventure it is not a matter of surprise that the spirit of professional promoting should have gained a foothold in our ranks. If there were not members of the profession in quasi good standing who raise the point as to the morale of the practice there would not be occasion to discuss the question of fee-dividing or commission-giving by whatever name the conscience-searing, profession-degrading, bargain-counter deal is called. In some communities this custom is practiced to a considerable extent, and by men from whom both the public and the profession have a right to expect better things. I am persuaded that in such instances those who are so doing have not looked at the question from all standpoints, and it is to be hoped are not aware of the wrong they are doing to the public, to their fellow practitioners and to themselves. Such men have only to be shown the error of their ways. They will then turn and walk in the paths of professional rectitude and uprightness. If their conduct is not caused by thoughtlessness, then it is due to avaricious cupidity, and can not be defended by any honorable right-thinking man. A prominent surgeon was asked by a country doctor what he would charge to come to a certain town and do four laparotomies the physician stating that the patients were poor and could not afford to pay much. With these facts before him, the surgeon said, in reply, that he would do the four operations for $200. The operations were performed, and at the close of them the surgeon received this amount in cash. Subsequently it was learned that this country doctor had obtained from these four patients a sum which aggregated $1,000, thus pocketing $1,000 for himself and giving the surgeon only $200 for his services.

Another surgeon was asked by a physician to come to a certain city to perform six operations, stating the patients were poor, but for which he (the country doctor) would see that the surgeon received $300 for his services. Under the circumstances the surgeon did the operations, and it was learned later that this physician received $1,000 from the patients, of which amount he gave the surgeon $300. The remedy is in a general moral uplift of the profession. If there is any class of men on earth whose mainspring of action should be the highest conception of professional, social and moral rectitude it is our profession.

Operative Treatment of Hemorrhoids.

DR. W. H. STAUFFER, St. Louis.: For general anesthesia I prefer and use ether, unless it is contraindicated. The operation to be selected depends on the three following factors: (1) Complete restoration of function; (2) the time required; (3) the pain produced. The clamp and cautery operation has come to stay, and by many men is considered the only one worthy of consideration. It is well adapted to chronic cases, in which the sphincter is relaxed and contraction is much to be desired. The ligature operation, as performed by the ancients, resembles in many respects the operation as done today. In my last 200 patients with hemorrhoids requiring surgical interference, about 25 per cent. had been operated by one of the approved methods. The unsatisfactory results could easily be traced to the following: (1) The attempt to adapt the pathologic condition to the operator's pet method, instead of selecting the operation best adapted to the individual case; (2) the improper postoperative treatment. The clamp and cautery operation can not be used unless a general anesthetic is employed. I have modified the usual methods of excision and ligature, and claim the following advantages for my method: Complete restoration of function; absolute prevention of postoperative hemorrhage; simplicity of method and after-treatment; the patient remains in bed three days, and from work from seven to ten days; very little pain after the first twelve hours, and the permanency of the results obtained.

DISCUSSION.

DR. E. H. THRAILKILL, Kansas City, Mo.: I use the clamp and cautery operation in cases in which there are no ulcers. When an ulcerated condition exists it is better to use the ligature, because one can pass the ligature around the ulcer which has been bleeding and arrest the hemorrhage by tying the artery. There is too much sloughing attending the injection method. As to dressings after operation, I condemn the practice of using tubes in the rectum.

DR. R. H. BARNES, St. Louis: In operating on hemorrhoids I prefer chloroform as a general anesthetic. I avoid the ligature or suture in rectal operations on account of the danger of infection. The injection method is not a good one when one compares results from it with results obtained by other methods of treating hemorrhoids. The preferred operation is the clamp and cautery method.

DR. W. H. COFFEY, Kansas City, Mo: The ligature has its place, as well as the clamp and cautery, in treatment of hemorrhoids. Most patients with hemorrhoids can be treated in the office; they need not go to a hospital. Large, painful, internal hemorrhoids require a general anesthetic, preferably chloroform or ether, according to one's own special ideas.

DR. JOHN D. RIDDELL, Enterprise, Kan: My patients have complained of throbbing pain for two or three days after operation. Following the operation, Dr. C. H. Mayo suggests that we go around the external sphincter and tie the cords, as he calls them, make a little incision, radiating from the center of the anus, just outside the external sphincter, and you will find the next day, if you examine the patient, that the rectum is bulging a little. This incision relieves tension and affords the patient much comfort; in fact, so much comfort that the surgeon will do well not to neglect it in finishing his operation for hemorrhoids.

DR. JAMES A. FOLTZ, Fort Smith, Ark: The patient should be very thoroughly under the influence of the anesthetic before one begins even to dilate the sphincter, otherwise the results may be disastrous. The anesthetist should be a capable man or should be watched very closely to see that he is careful.

DR. W. H. STAUFFER: The preparation of the patient is largely an individual matter. The object is to render the parts as nearly aseptic as possible. The choice of anesthetic is by no means unimportant. Ether is a decidedly safer anesthetic than any other in doing surgery on these parts. It is better to operate on patients with large hemorrhoids at a hospital rather than at the office.

(To be continued.)

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington, D. C., Sept. 28 to Oct. 3, 1908.

(Continued from page 1453.)

SECTION III.—SURGERY AND ORTHOPEDICS.

Tuberculous Arthritis of the Hip Joint.

DR. STEPHEN H. WEEKS, Portland, Maine: The treatment should be divided into local and constitutional, and the local is the more important. Local treatment is divided into mechanical and operative; the mechanical is used in the majority of cases. The broad principle of local treatment is to give rest to the affected joint, and this may be secured by either traction or fixation, or both, according to the indications. In the constitutional treatment, everything must be done to strengthen the defenses of the system against the encroachments of the tubercle bacilli. This applies equally well whether one is dealing with pulmonary tuberculosis or with tuberculosis of the joints. The salient idea is to increase the vital resistance by fresh air, sunlight and proper nutrition. Remarkable results have been achieved in recent years in cases of tuberculosis of the various joints by an outdoor life, particularly at the seashore, and without resort to operative measures. All that can be said of vaccine therapy at present is that it may prove a valuable adjunct to other treatment.

DISCUSSION.

DR. WILLY MEYER, New York: There can be no doubt that in the last 25 years the pendulum has swung toward conservatism in the treatment of these cases. In the beginning of antisepsis, 30 years ago, almost every surgeon attacked the hip joint by means of resection. So far, it has been impossible to apply the Bier treatment successfully to the hip joint. The joint is supplied by the internal iliac vessels, and the iliac vein can not be compressed. I have made attempts to compress the inferior vena cava. This is difficult and painful, and yet I believe that it is the only solution of the problem. It may be possible to construct cups, but they would have to fit very snugly about the hip. Many links are necessary to complete the chain in the treatment of tuberculosis, and tuberculin, hyperemia and hygienic and dietetic treatment are very important links.

Dr. John Lindahl, Denver, Colo.: An important fact in connection with joint disease is that the joint is supplied by the same nerve that supplies the surrounding muscles. This accounts for the spasm of the muscles in these cases. These spasms are particularly injurious at night, and to control them I have been in the habit of using a firm bandage applied to the thigh and hip. I have also used a canvas casing which could be buckled on. I have never been able to apply a plaster-of-Paris dressing that would control the spasms for more than three or four days, because there is always a tendency for the cast to become loose on account of the absorption of the fat.

Dr. S. H. Weeks: I wish to emphasize the fact that hip joint disease is primarily a local inflammation and should be treated as such. If the disease is recognized early and treated properly, in the vast majority of instances operative interference will not be necessary.

Tuberculosis of the Bladder.

Dr. Wilhelm Karo, Berlin: Tuberculosis of the bladder is almost always a descending process, of hematogenous origin. As a rule, it is the result of renal or genital tuberculosis. A pathologic distinction has to be made between genuine bladder tuberculosis and tuberculous cystitis. The seat of the morbid changes in the bladder usually depends on the mode of infection. Thus, in a case of right-sided renal tuberculosis the lesion is near the right ureter. The chief symptoms of bladder tuberculosis are difficult micturition, hematuria and pyuria. The diagnosis must be confirmed by finding the tubercle bacilli, either directly in the preparation or by animal inoculation. In every case of urogenital tuberculosis the primary seat of the tuberculous infection must be determined as soon as possible by cystoscopy or catheterization of the ureters. The cystoscopic picture is not in itself absolutely characteristic of tuberculosis. Nodules are also found in non-tuberculous disease. The surest prophylactic measure to prevent tuberculosis of the bladder is early extirpation of the diseased kidney before involvement of the bladder has taken place. Hence, the prognosis of bladder disease depends on whether the case is operable or not. In the great majority of cases spontaneous recovery of the bladder follows removal of the primarily diseased kidney. If the bladder does not clear up, it is often because the other kidney is also involved. The most suitable treatment of cases of this kind is a systematic tuberculin cure, supplemented by local treatment of the bladder with a weak bichlorid solution. Direct surgical treatment of a tuberculous bladder is of no avail and therefore not to be attempted.

Dr. Bransford Lewis, St. Louis: The points I wish to emphasize are the greater confidence and hopefulness with which such cases are now contemplated, by reason of the more scientific and exact methods of diagnosis at hand which give recognition and treatment of the tuberculous bladder, and the relatively greater actual success derived from these sources, as well as from the more serviceable modern methods employed. The clinical evidences are of great importance because they attract the attention of the physician first consulted. Persistent and apparently inexplicable frequency of urination and microscopic blood in the urine, extending over a long period, should arouse a suspicion of tuberculosis. Other important symptoms are pain and excessive tenderness on instrumentation. Free use of local anesthetics should be made in all examinations. Marked diminution in the bladder capacity is a characteristic sign. The crucial test is the finding of tubercle bacilli in the urine. The urine must be obtained in such a way that there will be no possibility of contaminating it with smegma bacilli, as it is extremely difficult to differentiate between them and tubercle bacilli. Guinea-pig inoculation should be used in case of failure to find tubercle bacilli in the ordinary way. The cystoscopic picture is not always typical. Intolerance of silver nitrate is a valuable sign. The treatment is palliative and curative; the latter is hygienic, systemic, local and operative. So much good can often be accomplished by local or operative measures that it is doubtful if these cases should be given up for the purpose of sending the patient away for good air and hygienic influences. Iodoform emulsion is soothing and often healing; bichlorid of mercury is irritating; creosote and guaiacol in full doses are beneficial. Tuberculin is used in the same manner as for tuberculosis of other parts of the body. In using the air cystoscope, I think that I have observed some benefit from dilating the bladder with air. Removal of the diseased kidney is often followed by prompt improvement in or recovery from the bladder trouble.

Discussion on Bladder Tuberculosis.

Dr. Guy L. Hunner, Baltimore: Few diseases cause so much suffering and resist treatment so much as bladder tuberculosis. It has been my practice to suspect tuberculosis in every case in which bladder symptoms were complained of, until it was proved otherwise. It is easy to rule out the common causes of cystitis. Any case of cystitis that fails to react under the ordinary methods of treatment should come under suspicion. Disease of one or both kidneys is another symptom that would suggest tuberculosis, as an ascending infection of the kidney from ordinary cystitis is rare. The cystoscope is important. There is a class of cases in which both kidneys are involved and in which it is advisable to begin treatment at the bladder end, instead of trying to remove either of the kidneys. In some of these cases a vesicovaginal fistula gives great comfort, especially in connection with the tub-bath treatment. I agree with Guyon and Casper as to the efficacy of bichlorid of mercury in these cases. My experience has been that dilatation of the bladder with air breaks open the ulcers, and only aggravates matters. Bichlorid of mercury probably acts by setting up a cystitis which will improve the circulation. Against that is the fact that silver nitrate causes as much irritation, and at the same time makes these patients worse.

Dr. Willy Meyer, New York: There can be no question but that in probably more than 95 per cent. of cases tuberculosis of the bladder is a descending process, but I am firmly convinced that primary tuberculosis of the prostate, which so often follows a primary invasion by the gonococcus, does exist and is to be considered as a cause of tuberculosis of the bladder. Every means at our disposal must be exhausted in attempting to arrive at a correct diagnosis; careful history, careful examination of the 24-hour urine, inoculation of guinea-pigs, *x*-ray examination, cystoscopy and the various tests of the functional activity of the kidney. The *x*-ray should be used before cystoscopy, in order to exclude stone. Personally, I favor the indigo-carmin test, though none of these tests if taken alone is reliable. The finding of ulcers on the same side as the pain in the kidney is a fairly reliable sign as to which side the disease is on. It stands to reason that if early diagnosis can be made, the proper treatment is to remove the more diseased kidney as early as possible. It is not necessary to remove the ureter.

Dr. E. M. Sala, Rock Island, Ill., reported a case in which he operated 6 or 7 years ago, in which one kidney was removed. This was followed by complete recovery from the bladder trouble. The ureter was left. The patient has remained well to date.

Dr. Louis E. Schmidt, Chicago, reported two cases in which he was consulted on account of hematuria. In each case he advised nephrectomy.

The first patient, a medical student, refused operation and went under vaccine treatment. That was a year and a half ago. Three or four weeks ago he returned, with a history of nephrectomy ten weeks previous. Cystoscopy now showed his entire bladder to be tuberculous. The second patient consented to and underwent a nephrectomy at the time of diagnosis, and when seen a few weeks ago he was entirely free from symptoms of bladder tuberculosis. He cited these cases to show the value of early diagnosis and nephrectomy. In the treatment of the bladder after nephrectomy, and also in cases in which the kidneys are so badly diseased that nephrectomy is not advisable, I believe that more attention should be paid to the hygienic and climatic treatment than to the local treatment.

Dr. William E. Lower, Cleveland. Ohio: If it is true that tuberculosis of the bladder is generally secondary, and I believe it is. then no treatment of the bladder would be of avail until the primary focus of the disease has first been treated. In my experience, tuberculosis of the kidney is much more frequent in women than in men. the proportion being about three to one. I have tried all manner of treatment of the tuberculous bladder following nephrectomy, but have obtained the best results with Rovsing's method, injection of a 5 per cent. solution of carbolic acid into the bladder once a week, and allowing it to remain in the bladder from 20 to 30 minutes. I have noticed that the ulcers are not found around the ureteral opening, but in the rear and most sacculated portion of the bladder.

Dr. Korssell, Chicago, reported a case of tuberculosis of the bladder which was not accompanied by tuberculous kidney:

The patient (a woman), after several weeks in bed and local treatment with iodoform emulsion. together with constitutional treatment, made a rapid recovery. The origin of the infection was probably a tuberculous peritonitis, the bacilli reaching the bladder through the urine. The urine was examined every day for a month, and no evidence of kidney disease was found.

Dr. W. Karo: The evidence offered by Dr. Korssell is not sufficient to disprove kidney tuberculosis. In cases of tuberculosis of the kidney, the diseased portion of the organ may become walled off and recovery take place without interference. In my opinion, it is absolutely useless to treat a tuberculous bladder while one or both kidneys are affected. A little experience will enable one to differentiate between the smegma bacillus and the tubercle bacillus. The smegma bacillus is shorter and thicker and is differently grouped on the slide. Hygienic measures are good when they can be carried out, but they are not easily applicable among the poorer classes. When one kidney is tuberculous and the other healthy, nephrectomy is the chosen procedure. If both kidneys are affected. usually one is more so than the other, and after finding out by the phloridzin test and by determining the freezing point of the blood. and by every other means, which of the affected kidneys is in the worse condition, I would not hesitate to do a nephrectomy on the more diseased side. I prefer to leave the ureter to take care of itself. I have not had good results from suturing the ureter in the wound.

Dr. B. Lewis: It would be a source of danger for one to rely with confidence on his ability to differentiate between the smegma and the tubercle bacillus in a given specimen. It is true that there are differences, but I would rather place my reliance on the exclusion of the smegma bacilli from the specimen than on the differences in size. shape and grouping. I believe that the ureter should be left in. thus avoiding the additional risk, and it can be removed later if found necessary.

Tuberculosis of the Female Generative Organs.

Dr. I. S. Stone. Washington, D. C.: In the vast majority of cases, disease of the female generative organs is secondary, although it may be impossible to find the seat or point of entrance of the infectious process. Repeated experiments and observations have failed to establish a definite method by which tuberculosis selects any organ such as the uterine adnexa for the implantation of the morbid process. I have found numerous instances of mixed infection. but I do not believe that a previous infection invited the implantation of tuberculous disease. Proof of the direct entrance of tubercle bacilli through the vagina into the uterus and thence to the tubes and peritoneum has not been obtained. Some gynecologists are inclined to believe that many of the erosions of the cervix attended with leucorrhea in virgins are due to tuberculosis. The diagnosis with tuberculin has rarely been tried. The median incision is advised. through which the peritoneum. mesentery and perhaps other abdominal contents may be examined and treated. This is important, because with the vaginal incision tuberculosis of the intestine or peritoneum may be overlooked. The curative results of hysterectomy, salpingectomy and oöphorectomy are nearly always satisfactory when there is but little extension of the morbid process to other organs.

Tuberculosis of the Peritoneum.

Dr. F. B. Lund, Boston: The chief interest to the surgeon lies in the treatment. The progress of the surgical treatment of tuberculous peritonitis. from its accidental discovery, through its empirical stages to its present scientific position, is one of the most interesting bits of present-day surgical history. In 1862 Sir Spencer Wells opened a case of tuberculous peritonitis by mistake, and sewed up again. His patient recovered and remained well. Since then the operation of opening the abdomen for this condition has been practiced. König, however, first formally advised the operation in 1884. J. B. Murphy, in 1904, observed and was one of the first to appreciate, that in many of these cases in women the Fallopian tube is thickened and ulcerated, and that the end of the tube is open and discharging its contents into the abdominal cavity. Murphy also called attention to the fact that if the focus of supply to the peritoneum is a mesenteric gland or an appendiceal tuberculosis, the necessity for its removal is indicated, as is the removal of a tuberculous tube. Therefore, the rational modern treatment is to discover and remove the source of infection.

DISCUSSION ON PAPERS BY DRS. STONE AND LUND.

Dr. Guy L. Hunner, Baltimore: It is remarkable how certain patients with very marked tuberculous disease of the pelvic organs and peritoneum, who are in an extremely bad condition, will recover after suitable operative interference.

Dr. Emil G. Beck, Chicago: After removing the source of infection the peritoneum, as a rule, will take care of itself. But if tuberculosis of the peritoneum is far advanced it will not take care of itself, and in such cases before closing the abdomen I advise the injection into the peritoneal cavity of about 2 drams of bismuth paste. It is harmless.

Dr. F. Lund: The danger of attempting local treatment of the peritoneum lies in the fact that one would be trying to produce adhesions, and that the results of the treatment can not be localized at the point desired. I believe that the greatest step forward was made when Dr. Murphy directed attention to the primary focus of the disease.

Tuberculosis of the Vas Deferens, Epididymis and Testicle.

Dr. John B. Walker, New York: This condition is rare in infancy, and most common between the ages of 20 and 30. It usually occurs as a primary tuberculosis of the epididymis, and is associated with pulmonary tuberculosis. Gonorrheal epididymitis is recognized as a causative agent, various observers giving it as a factor in from 5 to 35 per cent. of cases. Trauma is also a predisposing factor. The bacilli gain entrance most frequently through the respiratory or the gastrointestinal tract, lodging in the mediastinal or intestinal lymphatic glands, whence they are carried through the circulation to the epididymis. The onset is generally gradual; there is a feeling of weight and discomfort in the testicle, with tenderness later; there is a dull, aching pain in the testicle; a urethral discharge is generally present, and at first there is a slight frequency of urination; later. tenesmus. The urine contains a small amount of pus, blood and mucus. The disease has to be differentiated from gonorrheal epididymitis, syphilis and neoplasms. The prognosis varies with the extent of the disease. Some cases remain local a long time. Removal of the organ often effects a cure, whether or not the prostate and seminal vesicles are affected. The general treatment is the same as in other forms of tuberculosis. Abscesses should be incised. When the condition is recognized early, epididymectomy is the chosen operation. It should be performed in all cases of localized tuberculosis of the epididymis. It is important to preserve the testicle whenever possible, on account of its internal secretion. Following epididymectomy the testicle does not atrophy. and the patient retains his sexual desire. Orchidectomy should be limited to cases of extensive disease of the organ. In many cases, even when the prostate and seminal vesicles are affected, epididymectomy or orchidectomy will be followed by a subsidence of the prostatic and vesicular symptoms. Slight tuberculosis of the testicle may be depended on to heal spontaneously after removal of the epididymis. Castration is especially objectionable when both testicles are involved. At least a portion of one testicle should be left. Serious involvement of distant parts does not contraindicate operation, since it can be done under local anesthesia.

DISCUSSION.

Dr. William E. Lower, Cleveland, Ohio: A review of the literature shows that one class of writers holds that infection of the epididymis and testicle is always a descending one, starting in the kidney, bladder, urethra and prostate, and later involving the epididymis and testicle. Another class claims that the infection of the genital organs is always primarily in the epididymis, the infection spreading in the direction of the normal secretions. The same difference of views exists as to the proper method of treatment. A number of surgeons insist on a very radical operation, removing the testicle, epididymis, vas deferens, prostate and seminal vesicles. Others advise only the removal of the diseased epididymis, or testicle if involved. Still another class advises a "let-alone" method or the use of some sort of injection treatment. From my own experience and analysis of the literature, I believe that the disease is practically always hematogenous in origin, and that the infection ascends along the vas deferens in the direction of the normal secretion. Formerly I did a radical operation, but now I simply remove the more diseased parts, and find my results are better by following this procedure. By simply removing the epididymis, together with the testicle if involved, the patient's convalescence is shorter, his resistance less reduced, and he responds more quickly to the general and hygienic measures which are so important to complete recovery.

Dr. J. B. Walker: I wish to emphasize the great importance of early diagnosis. Every patient in whom there is any abnormal condition of the testis should be examined by a competent surgeon. These cases are usually overlooked in the early stage of the disease, and within four or five months the whole of the epididymis is involved. If these patients are seen at the very beginning and condition skilfully diagnosed, the testicle itself can be saved.

SYMPOSIUM ON SURGICAL TUBERCULOSIS.

Surgical Tuberculosis.

Dr. E. H. Bradford, Boston: The treatment of tuberculosis is dependent for its ultimate result on establishing an immunity which protects from further tubercular invasion. When the tissues invaded are put under suitable conditions, healing takes place and the affected tissues become cicatrized. The detritus of diseased tissues is either thrown off or becomes encapsulated. In tissues within the reach of surgical interference, the surgeon is to decide whether the healing process can be hastened by removing the affected tissue or the detritus. This depends on the tissues affected and their anatomic situation. These considerations are particularly important in bone tuberculosis and tuberculosis of the joints, because bone is a tissue that cicatrizes slowly, and the articulations are exposed to injury, which is unfavorable to the healing of the tissues affected by tuberculosis. In joint tuberculosis, it is especially important to see that the tissues are protected from trauma. The treatment of surgical tuberculosis consists in operative interference and the promotion of healing by protecting the tissues, in addition to furnishing such measures as are useful in combating tuberculosis in general.

Prevention, Diagnosis and Surgical Treatment of Tuberculous Sinuses and Abscess Cavities.

Dr. Emil G. Beck, Chicago: In this paper I desire to report 192 cases of sinuses and abscess cavities, including 19 cases of empyema pleuræ, treated during the past eight months. Results were as follows: In 125 cases, or 65 per cent., the lesions were healed; 53 patients, or 27.5 per cent., are improved and still being treated; in 11 patients, or 6 per cent., the condition is unchanged and they are still being treated; 3 patients, or 1.5 per cent., died in the period of eight months. These cases were collected from five hospitals, including the United States Navy and surgeons in different states. One hundred and forty-four of these patients were tuberculous, 48 non-tuberculous or doubtful. It is possible that the sinuses in some of the cases here reported as closed will reopen in the future. This, however, seldom occurred in the series. Should it occur, a repetition of the treatment is to be resorted to. Sepsis has not occurred in any of the cases, although a temporary rise of temperature of one to two degrees following the injection is not unusual. On the other hand, many patients who have had a daily rise of temperature of three or four degrees have often remained normal after the first injection. In my own series of cases I have not met with a true case of bismuth poisoning, although I have often noted mild symptoms indicating its absorption. One typical case was reported to me. From the history of this case, and from observations of other milder intoxications, it must be admitted that the absorption of larger doses of bismuth subnitrate may cause bismuth poisoning. One must not be deceived by the fact that large doses administered by stomach will cause no ill effect. There is a vast difference between the two methods of administration. Taken by the stomach there is little chance for absorption, because the drug passes through the alimentary canal in twenty-four hours, and bismuth is slowly absorbed. When injected into the pleural cavity, however, and retained there for weeks, the absorption is constant and accumulative. I have several cases on record in which the injection and retention of 100 grams of the 33 per cent. bismuth paste has not caused any ill effects. On the contrary, its effect on the patient was salutary. My records show that nearly all the patients who received bismuth injections have gained in weight, even if the sinuses did not close. The appearance of a faint blue line around the border of the gums is an indication that the bismuth injections have been carried to the safety limit. I advise injecting not more than 100 grams of the 33 per cent. paste, where it is likely to be retained. When larger quantities are required, percentage of bismuth should be reduced. Many factors undoubtedly contribute to the healing process, the bactericidal effect of the bismuth being, without doubt, the most prominent. In nearly every patient treated it has been observed that the injections are followed by the gradual diminution and often final disappearance of micro-organisms. Tubercle bacilli apparently are no exception. This fact was discovered in one case of tuberculous empyema, and has since been corroborated by another typical case. I have tried injections into the pleural cavity in a true case of tuberculosis of the lung, with pleurisy and effusion, and while the patient is still under treatment, there have been obtained very encouraging results. Whether the bismuth destroys the bacilli by its chemical action, or exerts a chemotactic power, has not yet been definitely determined. I am inclined to believe the latter is the case. The fact that the number of bacilli increases after the injection, and that they are found in the leucocytes, whereas before the injection they were outside of the leucocytes, supports the chemotactic theory.

Fresh Air Combined with Hyperemia in Management of Complicated Surgical Bone Tuberculosis in Adults.

Dr. Willy Meyer, New York: The beneficial influence of fresh air in surgical bone tuberculosis in children is generally recognized—not so in adults. In the latter cases, radical operation has been the usual treatment up to date, and will probably continue to be whenever the saving of time is a factor to be considered or when sufficient means are not at hand. Three cases of complicated bone tuberculosis in adults have demonstrated how much can be accomplished even in usually intractable cases, especially if combined with proper and faithful hyperemic treatment in its various forms. In sanatoria now designed for patients suffering from pulmonary tuberculosis, at least two wards, male and female, should be set aside for the treatment of adult patients with surgical bone tuberculosis who, for various reasons, can not or will not be subjected to operation. Of course, the attending physicians and nurses of such wards would have to master fully the details of hyperemic treatment.

How Minnesota Cares for Its Indigent Children Suffering from Tuberculosis of the Bones and Joints.

DR. ARTHUR J. GILLETTE, St. Paul, Minn.: In 1897, the state legislature of Minnesota first appropriated money for the care of indigent crippled and deformed children by the state. There being no precedent, the state was reluctant to take such a step. Since then a number of other states have made similar appropriations. At present, it ought not to be a difficult matter to secure money from every state in the Union to treat and educate this class of sufferers. It was found that about three-fourths of these crippled and deformed children were suffering from tuberculosis of the bones and joints. Many had complications of tuberculosis of the lungs, intestines, etc.; and a large percentage had abscesses and running sores, which not only contained bacilli of tuberculosis, but other infectious micro-organisms. Many of these children attended public schools, and no provision whatever was made to protect the well children in the schoolroom, or to prevent contagion in their own families. As it sometimes takes a number of years to cure a child suffering from tuberculosis of the bones and joints, the educational feature is an important one. The children must be educated, and they should have special instruction in lines of work which will be useful to them later, that they may be self-supporting. With the exception of a few states and a few large cities, no provision has been made to prevent contagion from or to treat persons suffering from tuberculosis of the bones and joints.

Discussion on Surgical Tuberculosis.

DR. HENRY W. FRAUENTHAL, New York, reported a number of cases in which he has successfully used the bismuth paste. He also spoke favorably of the Bier hyperemic treatment.

DR. B. H. WHITBECK, New York: Over a year ago a hospital was established at Sea Breeze, Long Island, and marked success is being met with in the treatment of surgical tuberculosis. The patients seem to do much better there than in the city hospitals, on account of the sea air.

DR. EUGENE CARAVIA, New York: These bone and joint troubles are only local manifestations of a general tuberculosis, and while bismuth paste, hyperemia, etc., are good for the local condition, they do not act on the general condition. I believe that something should be used which will act on the general condition, and feel that we have such a remedy in Cuguillere's vegetable serum.

DR. E. H. BRADFORD: I agree with Dr. Caravia that treatment of the general condition is more important than local treatment, but I believe that fresh air is the most important measure to be followed.

DR. E. C. BECK: It is true that while we would like to treat the general condition, yet that does not prevent us from treating the sinuses. In the absence of any absolute remedy for the general tuberculosis, we should treat the local condition as best we can.

DR. W. MEYER: We ought to individualize in treating tuberculosis; that is, not attempt to have any fixed way of treating every form of surgical tuberculosis, but treat each condition according to the indications in that case. In certain cases in which the lungs are also involved, the lung suction mask should be used in addition to the other treatment.

Tuberculosis of the Kidney.

DR. ARTHUR DEAN BEVAN, Chicago: The investigations of the last fifteen years have thrown much light on this subject. Formerly regarded as a rare lesion, to-day it is known as a not uncommon disease. Infection practically always occurred through the blood. Though the kidneys may be the first organs to give evidence of disease, tuberculosis of one or both is usually secondary to some obscure lymphatic lesion. Ninety per cent. of such cases are unilateral in the beginning. Later the disease may extend to other organs or to the opposite kidney. A distinct line should be drawn between urinary tuberculosis and genital tuberculosis. Urinary tuberculosis begins in the kidney and extends in the direction of the flow of the urine to the ureter, bladder, etc., while genital tuberculosis begins in the epididymis and extends to the vas deferens, prostate, seminal vesicles, etc. Early diagnosis is the most important thing, and depends on the finding of tubercle bacilli in the urine. A twenty-four-hour specimen should be examined. The smegma bacillus should be excluded by obtaining the urine by catheter and decolorizing with alcohol.

Cystoscopy may show redness, swelling and ulceration of the mouth of the ureter on the affected side. The ureters should be catheterized and the freezing point of the blood determined. If it is normal—from 0.55 to 0.57, or even as low as 0.59—nephrectomy can be safely done. The *x*-ray will differentiate from calculus. There are three methods of treatment: general hygienic, tuberculin and surgical. The hygienic treatment is very important, but the value of the tuberculin treatment has not been determined. In unilateral tuberculosis nephrectomy is the operation of choice. In bilateral cases the treatment should be hygienic; possibly tuberculin may be used, and certain palliative operative procedures, as nephrotomy and drainage, as may be required.

DISCUSSION.

DR. EMIL G. BECK, Chicago, asked Dr. Bevan whether in performing nephrectomy for tuberculosis of the kidney he removes the ureter when he finds it to be diseased.

DR. A. D. BEVAN: I think that the rule should be to dissect out as much of the ureter as possible without adding too much to the risk of the operation. I have no sympathy, however, with Kelly's proposition of removing the entire ureter and then turning the stump into the bladder; that procedure involves entirely too much danger to the patient.

Iodin Therapy in Surgical Tuberculosis.

DR. CESIDIO F. GUALANO, Naples: As a local measure, I recommend the use of a 5 per cent. solution of iodin in an artificial serum with guaiacol. This may be injected hypodermically, intramuscularly or intravenously. In most cases hypodermic injection is painful, and therefore intramuscular injection is preferred. The dose varies according to the age of the patient and the duration and intensity of the tuberculous process. A daily dose of 1 centigram may be increased to 3, 5 and more.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-eighth Annual Session, held at Cambridge Springs, Sept. 14-17, 1908.

The Nature of Carcinoma in General and the Early Diagnosis of Gastric Carcinoma.

DR. JAMES M. ANDERS, Philadelphia, in the oration in medicine, gave a series of facts showing that the disease under consideration and microbic diseases as a class are identical as to cause and operation.

The grouping of features rendering a given case suspicious is not constant, and the closest scrutiny of all symptoms, signs and laboratory findings, as well as judicious balancing of the data entering into the previous history by an eminently skillful diagnostician, are absolutely necessary before a probable diagnosis can be reached. The general practitioner who fails to avail himself of an expert medical opinion in the most slightly suspicious case is scarcely alive to his professional obligations. It is important to recognize carcinomatous implantation on ulcer and either extirpation or gastroenterostomy should be done whenever ulcer proves rebellious to medical treatment. The study of the cases must be conducted on broad lines with the employment of the various refined diagnostic methods.

The Etiology and Pathogenesis of Gastric Ulcer.

DR. WARFIELD T. LONGCOPE, Philadelphia: Circulatory disturbances, mechanical injuries and chemical insult may each and all cause a defect in the gastric mucous membrane and thus lead to ulcer. The main question at issue is, why the healing of this defect, which takes place so readily under normal circumstances, is so difficult to effect in true gastric ulcer. Evidently some other factor is involved and at present the weight of opinion seems to be that this adjuvant factor is hyperchlorhydria.

DR. J. A. LICHTY, Pittsburg, gave the results of the treatment of 140 cases of gastric ulcer.

DISCUSSION.

Dr. Judson Daland, Philadelphia: I agree with Dr. Longcope that the excess of hydrochloric acid is a contributing cause of the persistence of these gastric ulcers. Gastric ulcers which under treatment recover symptomatically and later recur form a class in which operation is urgently required.

Dr. William L. Rodman, Philadelphia: I think that practically every case of acute ulcer of the stomach is amenable to medical treatment. I am equally clear in my opinion that we can not expect to cure a chronic gastric or an indurated ulcer by any other than surgical means. The most popular method till now has been the simplest of all operations on the stomach—gastroenterostomy, but it is becoming less popular. The primary mortality following gastrojejunostomy as done at the present time is almost negligible. We should bear in mind the fact that one-third of all cancers in the body originate in the stomach, and that more than half of these cancers arise from neglected ulcers.

Dr. James M. Anders, Philadelphia: In the present state of our knowledge carcinoma of the stomach becomes largely a preventable disease by the timely removal of these chronic indurated ulcers. Whether a radical operation should be done in a given case is a question to be studied carefully by clinicians and surgeons together if possible. The presence of hyperchlorhydria is an indication that we should minimize the use of proteids and substitute other foodstuffs, thereby giving the stomach physiologic rest.

Dr. W. T. Longcope, Philadelphia: The experiments of Bolton have shown that in order to produce gastric ulcers it is absolutely necessary to have acid gastric juice in the stomach. If he washed out the stomach with alkaline solutions there was no ulceration whatever. If he increased the acid the ulcers were produced more readily.

Indicanuria.

Dr. Charles Rea, New York, gave the definition, history and different sources of indicanuria:

The principal source is the digestive tract above the large intestine. Its common complication of acute and chronic diseases is of much clinical significance, but is probably not generally recognized by the profession. The relation of microorganisms of the digestive tract to indicanuria, especially lactic bacteria, must be considered. Treatment consists of diet, antifermentative drugs and digestants, and, colonic flushings.

Relations Between Blood Diseases and the Digestive Tract.

Dr. Ralph S. Lavenson, Philadelphia: Lesions of the digestive tract may be primary or secondary to diseases of the blood. In leukemias, especially acute lymphatic leukemia, lesions of the digestive tract not infrequently occur secondarily to the leukemia. Progressive pernicious anemia is said almost invariably to be associated with a diseased condition of some portion of the digestive tract. Strict differentiation of these cases from those in which no lesions of the digestive tract can be determined, in my opinion is not justifiable. Great benefit and occasional cures result from energetic treatment directed against the faulty features in the digestive tract. The interpretation given by earlier clinicians of the association of chlorosis and gastric ulcer is probably erroneous. Cancer of the stomach is said not infrequently to produce secondary anemia, difficult of diagnosis from progressive pernicious anemia. The differential white count is frequently of value in making this differential diagnosis.

Factors Influencing the Clotting Time of the Blood.

Dr. Myer Solis-Cohen, Philadelphia, pointed out the sources of error in the methods most frequently employed in measuring the clotting time of the blood.

In his method the blood is dropped on the lid of a German *stenderdish*, which is covered with the dish, being fastened on with a rubber band, the inverted dish is then placed in a pan of water kept at a temperature of 98 F. At intervals the covered dish is removed from the water and the contour of the drop observed. Coagulation has occurred when the profile is convex and no longer tear or pear shaped. Application of this same principle may be made to records obtained in diseased conditions so that comparisons may be made.

DISCUSSION.

Dr. A. L. Kotz, Easton: The practical deductions drawn by the older pathologists from the process described by Dr. Cohen were the number of times the patient should be bled and the quantity of blood abstracted. The knowledge of the clotting time of the blood would be especially valuable in cases of small persistent hemorrhage and in all diseases prone to hyperinosis and hypinosis. I endorse what Dr. Lavenson has said in his paper, and believe that for a satisfactory solution of the conditions and diseases of the blood we must carry our investigations along the line of physiologic chemistry.

X-Ray Diagnosis of Joint Tuberculosis.

Dr. James K. Young, Philadelphia: The *x*-ray picture of tuberculous joint disease is characteristic, but should always be verified by laboratory findings, such as microscopic examinations, tuberculin inoculations, cultures and animal inoculations. The diagnosis of tuberculous joint disease in children is less difficult than in adults, but in the former the condition can be studied to better advantage by progressive plates, since the disease is more rapid. The *x*-ray examination is of value in differentiating tuberculous joint disease from other joint disease.

Compound, Comminuted Fractures of the Tibia.

Dr. W. J. Lowry, Carbondale: In treating this condition I smear my hands and the tissue about the wound with sterile vaselin and fill a small glass syringe with a mixture of carbolic acid, 95 per cent., glycerin 5 per cent., then plug all external openings in the wound, leaving only space in one portion to insert the tip of the syringe. I force this carbolic acid solution into the wound with sufficient pressure to reach every nook and cranny and pocket of soft and bony tissue. In from fifteen to thirty seconds this solution is followed in the same manner with about five times the volume of alcohol in a 95 per cent. solution of carbolic acid. The wound is then irrigated with sterile water and the usual dressing applied. To stimulate granules Balsam of Peru, sterate of zinc and iodin solutions are very helpful. Drainage is placed so as to invite the secretions from the wound and not dam them back to form pockets and cause absorption into the system. Proper application of suitable splints is important in these cases. For two years I have used a posterior and anterior plaster-of-Paris splint, with advantage over the old plaster cast.

Fractures of the Pelvis, with Special Relations to Urethral Injury.

Dr. Alexander G. Fell, Wilkes-Barre: Fracture of the bones of the pelvis is of frequent occurrence in the mining districts of Pennsylvania as the result of falling, or of the leg being caught between cars and pillars. All the bones are subject to injury, especially the ilium and pubis. The urethra may be injured in any portion, but in the membranous most frequently. It is impossible at first glance to determine the amount of injury; therefore, these cases require immediate and thorough examination as to the extent of injury, especially by urethra and rectum, and, in the female, by vagina. The most valuable information can be obtained by using the catheter before symptoms of extensive laceration are presented. If blood is present in the urine there is some injury to the parts above the prostatic portion, and it may be the kidney. If a soft catheter will not pass and the parts become clogged with blood, or if blood is passed through the urethra, there is probably some injury to the urethra. Restoration of the urethra can generally be accomplished by repeated passing of sounds, gradually increasing in size. Some of these cases are not seen by the surgeon until some time after the accident, with all the symptoms of peritonitis, and yet with immediate action, passing of a stomach tube to relieve vomiting, the continuous drop by drop enema without pressure and Fowler's position, good recoveries have occurred. The protection of the upper abdominal cavity and pelvic drainage counts as much in these cases as any other.

Discussion on Fractures.

Dr. W. L. Estes, South Bethlehem, believed that the fate of the limb in compound fracture depends largely on the first dressing. A first dressing should not be attempted without appliances for thorough asepsis and digital exploration should never be made. Reduction should never be attempted at the first dressing unless the surroundings permit of proper disinfection. I chisel off the ragged ends of bones so as to get rid of infectious material, then. after proper disinfection, the bone is drawn back into place.

Dr. W. M. Robertson, Warren: I do not believe that the surgeon ever sees a case of compound fracture that has not already been reduced by some one. In my experience not many infections have resulted from such reduction. Much dependence has to be placed in the resistance of the patient to sepsis.

Dr. W. J. Lowry: Many cases of compound fracture of the tibia become infected. Drainage should be provided at the first dressing.

Dr. A. G. Fell: The first dressing is the important one. For getting rid of pus I use saturated solution of potassium permanganate. followed by corrosive sublimate as high as 1 to 500 in strength, and this by sterile water.

Some of the Recent Improvements in Operations for Tumors of the Breast.

Dr. John H. Gibbon, Philadelphia: The object of this paper is to popularize the Collins-Warren operation for cyst of the breast. I believe that far safer, more satisfactory and more surgical treatment is that of making the semilunar incision of Warren along the lower and outer periphery of the breast, turning the breast up and removing the cyst by a wedge-shaped incision. The incision was first recommended by Thomas of New York. but the further steps in the technic have been elaborated by Warren.

DISCUSSION.

Dr. W. L. Rodman. Philadelphia: The breast should not be sacrificed for a benign cyst, but the gland should be turned up. the cyst removed and the breast replaced. As the incision is made at the lower border. not even a scar is visible. The incision in the axilla should be made early in the disease so that if the case should prove inoperable operation can be stopped before the patient has been subjected to extensive operation. I keep the arm bound down to the side for twenty-four hours, and after that the patient may use it at will.

Dr. C. P. Noble. Philadelphia: After a breast has been cut to pieces for the removal of multiple cysts, it is of no use for lactation, and that if the patient should have a child abscesses are apt to occur in such a breast. In patients with multiple cysts the breast should be removed.

Dr. Gibbon: The function of a breast may be preserved after the removal of several small cysts. and it is important to conserve a functionating organ whenever possible.

The Surgery of the Cervical Triangle.

Dr. Charles H. Frazier. Philadelphia, delivered the oration on surgery:

While lesions in the cervical region of surgical interest are almost too numerous to *mention.* this territory is one to which too little consideration is given by the surgeon. The refinements of technic. on which so much stress is laid in other special regions. as the abdominal or the cranial cavities. are not considered so essential in operations on the neck. This is probably due to the fact that with some exception the mortality is so low that the patient's life is not in question. In this age of specialism. which is unfortunate in many ways. this can not but lead to greater proficiency. the head and neck are coming to be regarded as a special field. with just as many possibilities and necessities for the perfection of a technic as have long since been recognized in the field of the abdominal or genitourinary surgeon. Rectal anesthesia is ideal for all operations on the head or neck.

(To be continued.)

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Regular Meeting, held Sept. 9, 1908.

The President, Dr. Albert M. Eaton, Philadelphia, in the chair.

SYMPOSIUM ON EXOPHTHALMIC GOITER.

The Anamnesis of Patients With Exophthalmic Goiter.

Dr. E. J. Gillespie Beardsley: Exophthalmic goiter should be diagnosed earlier. Case records show many instances in which the disease has not been recognized until years of ill health have elapsed. Of 20 cases of which I have complete histories in only 2 did the symptoms begin abruptly. Of the other 18 patients, 12 had been more or less constantly treated for nervousness and gastric disturbances, while 6 had been treated for organic heart disease. Emerson's method of therapeutic test by small doses of thyroid extract in masked or undeveloped cases is advisable. A systematic examination should be made of each patient, particularly as to any alteration in the thyroid, and in regard to slight degrees of protrusion of the eyes. Tests should be made for muscular tremor and inquiries made concerning any change in mental attitude of the patient toward life and those about her.

The Ocular Symptoms of Exophthalmic Goiter.

Dr. William Zentmayer: In the majority of cases of exophthalmic goiter, at some period, the eye symptoms dominate the clinical picture, but they form so essential a part of the symptomatology that their consideration scarcely falls within the domain of the specialist. The brownish discoloration of the skin of the lids so frequently observed excludes the possibility of its being an accidental accompaniment. That epiphora may be the initial symptom of this disease is well established. Falling out of the eyelashes and of the eyebrows has been seen by several clinicians. Ocular palsies and nystagmus are among the exceptional findings. Absence of wrinkling of the forehead when the head is held down and the eyes raised has been observed by Jessup. One of the surprises of the disease is the absence of any characteristic changes in the fundus. The retinal vessels seem not to partake in the dilatation which the orbital vessels suffer. Retinal arterial pulse synchronous with the radial is exceptional.

Surgery of Exophthalmic Goiter in the Light of Recent Discoveries.

Dr. W. Wayne Babcock: The theory that exophthalmic goiter results from an affection of the cervical sympathetic has not been substantiated. and the results obtained by the formidable operations on the sympathetic trunks and ganglia do not encourage further surgical endeavors in this line. The modern surgical measures against exophthalmic goiter are based on the theory that whatever may be the primal exciting cause, the symptoms of disease are produced by the entrance into the blood streams of poisonous substances elaborated by the thyroid. The size of the gland as determined by palpation is no exact criterion of its functional activities. The great vascularity of a small goiter is a marked indication for operation. There is danger from the removal of too much of the gland or from excessive ligation of the nutrient vessels; a greater danger. that of tetany, lies in the removal or destruction of the blood supply of the parathyroids. Kocher. who reports the lowest mortality, is an advocate of local anesthesia, while almost as good results have been obtained by the Mayos under the use of ether. A small experience has impressed on me the value of scopolamin-morphin. The dangers of the operation. including immediate and secondary hemorrhage. are usually to be avoided by careful. methodical work; and those of secondary acute thyroidism, and the occurrence of postoperative tetany by the conservation of the parathyroids.

Results Obtained by the X-Ray Treatment of Exophthalmic Goiter.

Dr. George E. Pfahler: At least 51 cases of exophthalmic goiter treated by Roentgen rays have been recorded in literature. of which 42 were followed by good results. In 3 recorded cases no other treatment was given. Good results were observed in some instances within forty-eight hours and almost without exception within a month, with complete recovery in most cases in from three to six months. Decided improvement may be expected in about 75 per cent. of cases. This improvement consists of an increase in weight and strength and gradual disappearance of the Basedow symptoms. Some improvement should be noticed within a month, and after from six to a dozen treatments. When the treatment is properly given there appears to be no danger. I can see no objection to recommending a trial of the treatment for a month in all cases.

Other Papers.

Papers were also read by Dr. Robert N. Willson, Jr., on "The Results of Medical Treatment of Exophthalmic Goiter," and by Dr. George P. Müller on "The Pathologic Changes in the Thyroid in Exophthalmic Goiter."

DISCUSSION.

DR. WILLIAM L. RODMAN: The muscular tremor is a valuable sign in the diagnosis of exophthalmic goiter. A certain percentage of patients, placed by Charles Mayo at 25, recover without treatment, or with very little. There is a great preponderance of the disease in women. In my opinion three fourths of the patients will be cured either by ligation of the vessels or by extirpation of a part of the gland. Dr. Mayo estimates that 25 per cent. of his patients are cured by ligation of the superior thyroid. The very vascular goiters are the ones in which ligation should be practiced, because it can be readily accomplished and in the event of failure to cure enucleation can be done. I regard the method of thyroidectomy advocated by Dr. Babcock as the best and safest, in that the parathyroids are not removed. I believe, however, that the danger of removing the parathyroids is exaggerated. I do not believe that operation under local anesthesia is safer than under general. Mayo's results under general anesthesia—a hundred operations without mortality in the last year—are better than Kocher's under local anesthesia. These good results are due in a measure to the judgment used in selecting the cases. These are not "picked" cases, however, for the worst come to Mayo, the proportion being two of exophthalmic goiter to one of simple goiter. The supplemental use of the x-ray in exophthalmic goiter promises less than in the treatment of simple goiter. While the entire gland had been removed without the subsequent development of myxedema, this possibility should be remembered and a partial thyroidectomy only be done.

DR. S. SOLIS-COHEN: I am not convinced of the necessity for surgical operation in exophthalmic goiter, though I admit that the operation can be performed without sacrifice of life. The 3 or 4 per cent. mortality, however, I regard as unnecessary. I feel that a better classification is needed, believing that pathologically there are more varieties than indicated by Dr. Müller. That hyperthyroidism supervenes on the disease, I have no doubt, but I recognize conditions militating against the theory of its being an original cause. Against the theory of intestinal intoxication producing the disease is the fact of the appearance of all the symptoms following fright. In a case seen in consultation I observed in the attempt to close the eyelid, a "hitch," or interrupted descent of the eyelid. I have seen no mention of this sign in literature. While 50 per cent. of the patients with exophthalmic goiter may recover spontaneously, the other 50 per cent. will require treatment. This must be hygienic in part, supplemented by certain drugs. The thymus gland is valuable; the adrenal gland is useful, but the extract of this gland must not be swallowed. I believe that a better division of cases will show that much of the discrepancy in regard to treatment is due to the fact that treatment applicable in one variety of cases has been wrongly applied in another.

DR. G. E. PRICE: Medical measures should be employed before surgical treatment is resorted to, thus putting the patient in a more favorable condition for operation. A limited experience has shown me the value of hygienic treatment, of a milk diet, and of rest. Galvanism has also been tried with good results.

DR. L. J. HAMMOND: There are some cases of exophthalmic goiter in which nothing short of surgical treatment is beneficial. That 50 per cent. of patients recover spontaneously surprises me. The sign referred to by Dr. Cohen I have seen reported by Dr. Boston and described as a lagging of the upper eyelid.

DR. WILLIAM ZENTMAYER: I have seen a description of the sign mentioned by Dr. Cohen in literature. It was shown that the eyelid halted only to resume its further downward course.

DR. W. WAYNE BABCOCK: The surgical treatment of exophthalmic goiter was based first on the conception that the disease is not always benign. In an article by Thompson, reference is made to the fact that some of his patients died after recurrence of all the symptoms of the disease. The fact that a patient appears very much better under a restricted form of diet, but will later relapse, is no indication that the treatment is beneficial.

KENTUCKY STATE MEDICAL ASSOCIATION.

Fifty-third Annual Session, held at Winchester, Sept. 23-25, 1908.

(Concluded from page 1455.)

SYMPOSIUM ON CARDIOVASCULAR DISEASES.

High Arterial Tension.

DR. H. H. ROBERTS, Lexington, emphasized the importance of giving more attention to this disorder, of making more careful examinations and more correct diagnoses of that class of patients who, in middle life, apply for advice and guidance as to their health. This can best be accomplished, he said, by advising patients to have regular systematic examinations made after they have reached the age of 40.

Dilatation of the Heart.

DR. C. G. DAUGHERTY, Paris: No class of cases furnish such spectacular results to the clinician and seem to make the practice of medicine so worth while as dilated hearts. Acutely dilated hearts in young athletes and mountain climbers recover frequently on purgation and rest alone. Patients with great lividity may receive life-saving treatment through the letting of twenty or thirty ounces of blood. Without it death speedily follows through the great embarrassment of the right auricle and lungs. Most patients require diffusible stimulants, such as aromatic spirits of ammonia, whiskey, camphor in equal parts of olive oil and ether by hypodermic injection, strychnin, gr. 1/30, atropin gr. 1/120 and nitroglycerin, gr. 1/100, to overcome the pulmonary edema. As soon as these stimulants have served the emergency the patient needs a brisk cathartic such as a saturated solution of Epsom salts. One ounce of compound jalap powder in dram doses night and morning, occasionally with 5 or 10 grains of calomel, must be given to unload the portal circulation. Without this preliminary purgation, patients seem to make little progress and we get little results from the sheet anchor in these cases—digitalis. Digitalis seems to do good in whatever form administered, with a lesion of whatever valve, myocarditis, fatty heart, etc.

Angina Pectoris and Pseudoangina.

DR. W. F. BOGGESS, Louisville: Treatment in angina is of undoubted value. Much can be done not only to relieve the symptoms, but to remedy the conditions which underlie them, and particularly is this so in arteriosclerosis. The treatment should consist, first, in the relief of immediate symptoms, and the remedy *par excellence* for the reduction of the tension in the vascular system is amyl nitrite, which, if given in sufficient doses. dilates the peripheral vessels and releases the tension in the heart. This drug is best given in doses of from five to ten drops by inhalation, generally by mashing in a handkerchief a pearl. It must be given for this immediate effect and should not be continued for any great length of time. Nitroglycerin is the next best remedy to the amyl nitrite. It must be given during the attack in larger doses than is ordinarily used, say from 1/50 to 1/25 of a grain. It is also a remedy that can be kept up for a considerable length of time with great benefit in preventing subsequent attacks. The treatment of pseudoangina is prophylactic and medicinal. It resolves itself largely into the question of relieving the neurotic state.

Discussion on Cardiovascular Diseases.

Dr. William Bailey, Louisville: We are dependent for nutrition on the circulation for the changes we term metabolism and for the elimination of toxins and other agents, and consequently there is much more to be considered than the action of the heart itself. It has been my purpose in teaching for many years to show that in feeling the pulse really there is much more than is ordinarily apprehended, and I have called attention to the fact that there is much more oftentimes in the tension of the artery than there is in the action of the heart itself. If I were directed to examine a man in materia medica and was only privileged to ask questions concerning one drug, I would select digitalis, because it is capable of doing more good where it is indicated, and more harm where it is not indicated, than almost any other drug. A satisfactory way to improve the pulse is to slow it and increase the tension of the artery in order better to carry on the functions. I am not satisfied that we secure better results by prescribing digitalis in combination with nitroglycerin. Additional heart power comes from each, but the influence on the capillaries is so opposite that while we are contracting the capillaries by digitalis, we are at the same time dilating them by glycerin.

Dr. Curran Pope, Louisville: My own belief in regard to high arterial tension and its resulting arteriosclerosis, is that advanced by a noted authority, namely, that it commences in intoxication, continues in intoxication, and terminates in intoxication, and I mean by intoxication, intoxication in the form of poison, whether it be indigenous, arising from the body and within, or exogenous, coming from without. The best way to treat high arterial tension and arteriosclerosis is to prevent it. I have seen a number of cases of acute dilatation of the heart, and I have found that by instituting promptly two or three measures we can sometimes give instantaneous relief. A hypodermic morphin should be given at once, not only for its action on the cardiac apparatus, but because of its influence in quieting the nervous system and the relief of fear.

Dr. Torald Sollmann, Cleveland, Ohio: The effect of the circulation on the organ is proportionate *not to* the pressure of blood in the organ, and not to the amount of blood in that organ, but to the rate of flow through the organ. The important factor is to know how quickly the blood is renewed. It may be possible to raise the blood pressure by constricting the arteries and getting absolutely no increase in their work, but rather a decrease. We may obtain higher pressure by the action of the heart, but not necessarily by the constriction of the vessels. We get an increase of nutrition in the latter case if the constriction involves some area other than that in which we desire the blood supply. For instance, by the constriction of the splanchnic vessels we may obtain an increase in the skin. We can raise the blood pressure *twice as quickly*, if in addition to the action of digitalis on the heart, we invoke the action of digitalis on the vessels. It is important to remember in this connection that the simultaneous administration of filtrites makes it important to substitute strophanthus for digitalis, since it does not have a constricting effect to any great extent.

Dr. H. D. Rodman, Henderson: I have seen two deaths from acute angina in the last few years in people who never complained of anything that would lead *me to think they* were suffering from anything of that kind. One of them partook of a full meal of favorite vegetables, and died suddenly.

The Physicians of To-Day and To-Morrow.

Dr. Dunning Wilson, Louisville, chose *this as the* title of the address in medicine. He discussed tuberculosis, pneumonia, malaria, yellow fever, diphtheria, bubonic plague, tuberculins, vaccines and serums, infant feeding, diagnostic methods, and then had this to say with regard to a national department of public health:

When we contemplate the great loss of human life from preventable diseases, and consider that the government has not provided a department where investigations are carried on under bureaus having adequate appropriations, we are confronted with the oft-repeated assertion that the cheapest thing in the world is human life. We have institutions which are doing the finest original research along medical lines, but what is needed in order to make these discoveries of any real benefit is a clearing house or central governmental department of sufficient importance and dignity to occupy a place in the cabinet, where all experiments with their results may be properly correlated and verified, where the true may be divided from the false, the practical from the theoretical, and the facts from the fancies. When the physicians in America realize that a department of health may be interrogated regarding matters pertaining to the health of a community and careful investigations made possible, they will hesitate to advance any of their pet theories or make affidavits agreeable to the desire of their clients.

Education and Publicity.

Dr. John G. Cecil, Louisville, selected this as the subject for his presidential address:

Of all the interesting topics that might be introduced for consideration, there is none more pertinent at this particular time than the questions of education and publicity. Never in the world's history has the thirst for enlightenment by all classes been so great as it is to-day. The common sense of the people teaches them that they have the right to know the forces and conditions that work for good and for evil. Publicity is now the keynote. The day of mystery is no longer tolerated. This applies to things medical as it does to every other phase of human existence. Information concerning medical affairs is rapidly becoming common property, and it is important that this information should be correct. In order that it may become correct, it is absolutely essential that it emanate from the only source capable of supplying it in its virgin purity—the medical profession. From time immemorial medicine has been an occult science; a veil of mystery has hung about it. Its origin and traditions have fostered this impression; even the ethical principles governing its votaries, which are little more than the rules of common courtesy between physicians, have been misunderstood and misinterpreted. The attitude of dignified silence steadfastly maintained by medical men concerning the secrets of their calling have likewise encouraged the belief in its mysteries. Grave misapprehensions, for which the medical profession is in part responsible, have arisen, resulting in injustice to the profession, and in great harm to those dependent on and needing its counsel.

The medical profession must face this situation as it exists, and to it alone must we look for the solution. We can not dodge the responsibility; the tide has set in, and we must stem it or be carried away with it. Reduced to proximate principles, the reason for the existence of the profession of medicine is the preservation, promotion and improvement of health, the prevention of disease and prolongation of life. The medical profession must contend in the solution of the problems confronting it, not only with the ignorance and credulity of things medical, but with the immense activity of makers and dispensers of many articles in common use by it, such as medicines, special foods, medicinal waters, and especial treatments for every ill to which human flesh is heir.

The manufacturers and agents of these various wares assume to teach the medical profession and to furnish opinions for the public. The problem now awaiting solution is twofold, and the sooner we set our hands to it the better. The first essential is to raise the standard of medical education, and the other is to educate the public that it may be able to protect itself. When the people know what is the right thing to do they will do it. The unit in this system of educating the public is the doctor himself. In addition to continuing the work of uplifting and education among the members, every society should have an educational department or a bureau of publicity, whose duty it will be to educate the public and to disseminate knowledge of things medical.

Suggestive Therapeutics.

Dr W. E Senour, Bellevue: Education in mental therapeutics till now has been conspicuous by its absence, although experience teaches that it occupies as well-defined a place in relation to many diseases as drugs do in others. The purely scientific character of the medical school training, the mechanical and chemical plans on which physiology moves, the strictly material nature of all modern pathology, all tend to foster the belief that consideration of the psychic factor is useless and futile in result The action of the mind on the body must be recognized as legitimate and natural, as it is well-nigh universal, and its beneficent excitement to curative action by mental therapeutics is not only legitimate on the part of every physician, but essential to all good practice. The mind can be so concentrated on a physiologic process as to stimulate that process to unusual activity, and thereby produce certain effects. The rational form of mental therapeutics in treatment by suggestion in the conscious state is rapidly gaining ground. Much of the success of suggestive treatment depends on the personality of the physician and his ability to make the suggestion effective.

Organic Serum Therapy.

Dr. R. H. Cowley, Berea: In the preparation of diphtheria antitoxin few difficulties arise and consequently diphtheria is the most favorable disease for serum therapy. The lesion in diphtheria, early in the disease and usually throughout its course, is localized in the throat or other easily accessible place, and so we have a toxemia and not a bacteriemia. The antitoxin is easily prepared in large quantities and is easily standardized. Most important of all, the local symptoms precede the general intoxication by hours and sometimes days. Under these circumstances, a sufficient amount of antitoxin administered early is sure to bring about a complete cure. Statistics on the value of tetanus antitoxin are hard to get, but from those available it appears that the mortality of acute tetanus has been reduced from 90 to 75 per cent., and that of chronic tetanus from 40 to 20 per cent. Tetanus antitoxin is of most value as a prophylactic. Epidemic meningitis is another disease favorable for serum treatment, only here, too, we meet with the difficulty that the first symptoms may indicate fatal intoxication. Dr. Flexner has thus far reported 33 cases treated by himself and by others under his direction Of these, 295 patients recovered and 98 died, a mortality of 33 per cent.

Drugs in the Treatment of Disease.

Dr W. W. Anderson, Newport, pointed out some of the reasons for reaction against the use of drugs, as well as the good reasons that are sometimes pushed to vicious extremes:

Among the reasons to be placed to the credit of the profession are the progress of preventive medicine; the search for specifics, and a lessened use of drugs often carried to harmful extremes on account of the progress of surgery. A fourth cause of drug distrust and disease is the progress of physiologic experiments with drugs A fifth natural source of drug disfavor is the revival and growth of mental therapy. A sixth cause for drug nihilism has been the progress of laboratory methods in diagnosis and the great interest taken in scientific diagnostic methods. Another and an important reason for the present disinclination to drug treatment is the commercial exploitation of drugs. This has led to the widespread practice of deception by the manufacturer, the wholesaler and the retailer as to the chemical nature or the therapeutic value of their products. In spite of excellent progress in the various lines of drugless treatment, there still remains a field of usefulness for this oldest, best-established and most widely practiced form of therapy.

Parallels of Bovine and Human Tuberculosis.

Dr. W. A. Wyman, Covington: I am not a special champion of pasteurization or the sterilization of dairy products, I realize that the public is slow to take the initiative and that sanitarians must therefore resort to some such expedient unless it is known that the cattle which furnish dairy products are free from tuberculosis. I believe that infected, dirty, raw milk is causing more unnecessary suffering, disease and death than anything tolerated by civilization.

Symptoms, Diagnosis and Medical Treatment of Inflammation of the Kidney.

Dr B. F. Zimmerman, Louisville: Urinary antiseptics are indicated on theoretical grounds, and in some cases they have done good I have found hexamethylenamin reliable. Opium must be given at times for the relief of pain Quinin is highly recommended by some writers, but has been disappointing in its results Frequent irrigations of the bladder with mild antiseptic solutions, when the cystitis is troublesome, should be employed. As in so many other conditions, prevention is worth more than all treatment.

Surgical Treatment of Inflammatory Diseases of the Kidney.

Dr David Barrow: An operation on the kidney often requires surgical treatment of the ureter, either its exploration, incision to relieve obstruction, or removal for irreparable disease The kidney surgically is approached from before or behind, transperitoneally or by lumbar incision Much has been published by the advocates of the transperitoneal method, and Mr. Thornton advocates enthusiastically the abdomino lumbar operation for stone in the kidney or ureter For a large kidney neoplasm or for a large cyst, especially when the diagnosis is in doubt, and in traumatisms, the transperitoneal operation is often best. But in inflamed and septic conditions involving the kidney and ureter, practically all surgeons are agreed that the lumbar route is safer. In two cases I explored the kidney and ureters through an anterior abdominal incision the symptoms and skiagraphs suggesting stones, but in neither case was a stone found The inflammatory diseases of the kidney and ureters that may require surgical treatment are inflamed movable kidney, acute and chronic nephritis, inflamed cystic kidney, inflammation due to calculus of the kidney or ureter, tuberculosis of the kidney or ureter, and other infections of the kidney. In pyelotomy the incision is made in the posterior surface of the pelvis of the kidney, being careful to avoid a blood vessel that is sometimes so distributed its ligation being necessary in case of division After the stone is removed the incision must be carefully sutured with fine catgut and the rest of the operation completed as in nephrolithotomy.

Neoplasms of the Kidney.

Dr George A. Hendon, Louisville: The operative treatment of neoplasms of this organ may be divided into nephrectomy and nephrotomy. Nephrectomy and drainage should always be employed in cysts of the kidney, as such growths are bilateral and usually congenital Siegrist has collected 64 cases of operation, 29 of carcinoma and 34 sarcoma, one not given Nephrectomy was done 61 times: 32 patients died from the effects of the operation, 9 from recurrence and metastases, and 11 were still well after a period varying from 5 months to 2 years. Out of ten patients with malignant tumor operated on by Israel, 5 were without recurrence from 1 to 7 years after operation, and a sixth died without recurrence one year later of perforative appendicitis. Of 263 cases of nephrectomy collected by Kuester, 155 patients recovered, of which 28 per cent were permanently cured, but only 9 were free from relapse at least three years. In my opinion, operative recovery depends entirely on the competency of the other kidney Recurrence of malignancy depends on the extent of involvement at the time of the operation. Treatment to be effectual must be instituted before disease has unfitted the victim for a surgical risk of any character.

Diagnosis and Treatment of Diseases of the Accessory Sinuses of the Nose.

Dr. Gaylord C. Hall, Louisville, recounted the more recent work in the pathology and treatment of these diseases

The baneful effects of sinus disease in children contracted during the acute exanthemata are now recognized. The wide spread infection of the sinuses during epidemics of influenza and the fallacy of the statement 'just a little cold in the head" are often the starting points of a sinusitis that may last for years. The significance of unilateral headaches, of obscure attacks of facial neuralgia, of subjective odors formerly believed to be due to perversion of the sense of smell, attacks of vertigo, with a discharge into the nose and nasopharynx, all have found their explanation in a large percentage of cases in diseases of the accessory cavities of the nose. The pathology present is what is to be expected in any long suppurative condition, namely, degenerative changes of the mucous membrane often resulting in the formation of mucous polyps. There is involvement of the ethmoidal labyrinth. Decided changes are usually present in the middle turbinals. It may be polypoid in character. In certain cases it is cystic at the anterior extremity, effectually blocking drainage from the frontal sinus. As this structure is intimately connected with the drainage of the sinuses, one of the first steps is its removal, after which the sinus drains naturally and the membrane becomes normal. Removal of the anterior half of the turbinal facilitates drainage of the frontal sinus, and must be done preliminary to the Halle or Ingals operation. Removal of the posterior half opens up the sphenoid to operative attack, its ostium being slightly above and to the outer side of the posterior end of the middle turbinal. The removal of the middle turbinal likewise facilitates drainage from the antrum, and I invariably remove it before undertaking other operative measures.

Report of the Committee on Medical Defense.

The Committee on Medical Defense reported that it had read carefully the reports of similar organizations of Great Britain, Canada and various parts of the United States, and found that malpractice suits had been greatly decreased in number in those countries and states; that satisfactory protection had been given the members, and that in all cases the benefits had been undoubted. From this same research the committee believed that the work could be properly carried on for the amounts mentioned, namely, $5 for an entrance fee, and $1 a year from each member as dues.

The committee considered three points: 1. Will the formation of a defense union be beneficial to the physicians of Kentucky? 2. Is such a union practicable, and if so, what are the minimum rates necessary for good results? 3. Can this union have legal standing without coming within the regulations of the insurance laws?

As to the legal standing of the union, the best lawyers in the state had been consulted and assurance had been given the committee that the articles presented to county societies were in perfect accordance with the laws of Kentucky.

The various insurance companies charged $15 for the protection which the Defense Union will give for $1 (the entrance fee, $5, being paid once only), and, therefore, the committee did not expect anything other than the unanimous adoption of its report by the county societies.

This report was adopted by the society and recommended to the county societies for adoption.

Other Papers Read.

The following papers were also read: "Antepartum and Postpartum Hemorrhage," Dr. Edward Alcorn, Hustonville; "Electricity and Hydrotherapy," Dr. J. B. Kinnaird, Lancaster; "Laxatives in Pregnancy," Dr. John C. Moseley, Henderson; "Work of Jefferson County Milk Commission," Dr. B. C. Frazer, Louisville; "The Mechanical Prescription," Dr. T. Sollmann, Cleveland, Ohio; "Present Status of Therapeutics," Dr. W. Lucien Heizer, New Haven.

Officers Elected.

The following officers were elected: President, Dr. I. A. Shirley, Winchester; vice-presidents, Dr. M. Coombs, Louisville; Dr. B. S. Parish, Midway; Dr. J. C. Carrick, Lexington; secretary, Dr. Arthur T. McCormack, Bowling Green; treasurer, Dr. W. B. McClure, Lexington; *orator in medicine*, Dr. C. G. Stephenson, Becknersville; orator in surgery, Dr. J. F. Pythian; delegates to American Medical Association, Drs. Arthur T. McCormack, Bowling Green, W. W. Richmond, Hickman; alternates, Dr. A. D. Price, Harrodsburg, and Dr. H. K. Adamson, Maysville.

Louisville was selected as the place for holding the next annual meeting.

Medicolegal

Admissible Evidence Concerning and Responsibility for, Subsequent Dislocations.

The Supreme Court of Illinois says that in the personal injury case of Donnelly vs. Chicago Railway Company, the evidence was uncontradicted that the original dislocation of the plaintiff's right shoulder was caused by his being thrown when attempting to get on a car, and that previous to that accident he had never had any trouble with his shoulder or arm. He also testified that after that accident the same shoulder had been twice dislocated. He stated that the first of these subsequent accidents occurred when he was standing in a farm wagon, throwing out some straw; that the horses made a quick move, and, to prevent himself from falling from the wagon he grabbed a board, dislocating his shoulder thereby. The second dislocation, he said, occurred while he was driving a colt after its mother to change stalls in a barn; that the colt objected to going up a bridge into the barn, and, as he threw up his right arm quickly to scare the colt, the arm went out of its socket again. A physician was called as an expert witness, and asked a hypothetical question which fairly included the facts connected with the original and first subsequent dislocations of the shoulder, the question *concluding*: "Are you able to form an opinion from these supposed facts as to whether there was any connection between the first and this second dislocation?" His answer was that in his opinion "the first dislocation would predispose to a second." In answer to a second hypothetical question as to the third dislocation his answer was: "There was the same relationship as previously mentioned. A predisposition has been created to dislocation." It was urged that this testimony of the physician was so uncertain and conjectural that it should not have been admitted in evidence. But the court sees no error, and affirms a judgment in the plaintiff's favor for $1,500. It says that the question whether the original dislocation would have a tendency to predispose the shoulder to a second dislocation was a proper subject for expert testimony. It thinks it was correct practice for the court to permit the plaintiff to prove the facts with reference to these subsequent dislocations and submit the question of their cause, as one of fact, to the jury, under proper instructions, as was done here.

What Is Covered by Term "Leg" or "Arm"—Expert Evidence Excluded.

The Court of Appeals of Kansas City says that the case of *Rogers vs. Modern Brotherhood of America* was brought to recover on a benefit certificate which provided that should the *holder* "accidentally break his leg or arm" he should receive a certain indemnity. The plaintiff alleged that he broke his leg. The proof showed that the only bone fractured was the heel bones (os calcis). A physician introduced as a witness by the defendant testified that anatomists define the word "leg" as that part of one of the supporting limbs which extends from the knee to the ankle.

But the court holds that the definition of the word "leg" *should* not be controlled or even influenced by the meaning placed on it by specialists, since the *word has* a well-defined common meaning. Terms used exclusively by experts may require expert definition, but those referring to matters of common knowledge need not be so definite. Parties in contracting are supposed to use language *in its* commonly accepted sense, and courts and juries do not require the aid of experts to tell them what such language *means*. The trial judge should not have permitted either *party to* introduce evidence to define the word, but should have ascertained its meaning from the language of the contract and instructed the jury accordingly.

The agreement of the defendant was to indemnify the plaintiff in case he should "accidentally break his leg or *arm*." *Evidently* the parties intended to use the words "leg" and "*arm*" in the broadest sense. Medical men generally employ the word "leg" in its etymological and most restricted meaning of referring to the portion of the limb between the knee and ankle joint, and when they speak of the bones of the leg they refer to the patella (kneecap), the tibia and fibula. It is too absurd for serious consideration to think that in speaking generally of an arm and leg the contracting parties intended to provide for a fracture of *no other bones in the leg* than those comprised in the middle section.

When one thinks of arms and legs as limbs, it is manifest that hands and feet must be included. The human body has four limbs, two arms and two legs, each divided into three sections, and it takes all three to make a complete limb. The term "arm's length" refers to the length of the entire limb, including the hand. "Leg bail," "on one's legs," "as fast as his legs would carry him," all refer to the complete limb, and necessarily include the foot.

Under the rule which requires the court to interpret the certificate most liberally in favor of the holder, it can not avoid the conclusion that, in providing indemnity should the member "break his leg or arm," the parties intended to cover fractures of bones of the limbs, whether such bones were in he hands or feet, or were in the upper or central divisions of he limbs. A fracture of the heel bone was covered by the certificate.

Drawing of Line as to What May be Basis of Expert Testimony in Injury Cases.

The Supreme Court of Illinois says that it was claimed in the personal injury case of Greinke vs. Chicago City Railway Company that the plaintiff was suffering from paralysis as a result of the injury which she received. She called as a witness a physician who had examined her, on the day before he testified, to qualify himself as an expert witness. He testified, over objection, that at the time of his examination of the plaintiff she was nervous; that there was a twitching and jerking of her hands; that there was a slight drooping of her left leg or left foot as she allowed it to hang over a chair; that the toes of the left foot turned in more than those of her right foot; that the step with the left foot was not as strong as that with the right, "not exactly a dragging but a suspicion of dragging"; that he tested the strength of her hands by taking hold of them with his hands and asking her to squeeze; that he noticed a difference in the strength of her hands; that one thumb was weaker than the other; that the examination was not made for the purpose of treating the plaintiff, but that he might testify as a witness in her case; that he could not say positively whether the jerking and twitching which he observed were voluntary or involuntary; that his impression was that they were involuntary; that the muscles which produced the conditions observed by him were voluntary and under the control of the plaintiff. It is held that in certain respects there was error in admitting this testimony.

The rule is well established in the state of Illinois that the declarations of the injured party, in a case like this, when made as a part of the res gestæ (essential circumstances of the case) or to a physician during treatment or on an examination prior to and without reference to the bringing of an action to recover damages for the injury complained of, may be introduced in evidence. But the declarations of the injured party made to a physician who has made an examination of such party with a view to qualifying himself to testify as a witness only are not admissible.

It has also been held that witnesses who are not experts may express their opinions as to the physical conditions of persons whom they have observed; *that is, they* may state whether, in their opinion, such persons are in good health, have the ability to perform work, whether they are suffering pain, are conscious or unconscious, in possession of their mental faculties, etc.

The rule, however, is well settled *that a physician*, when called as a witness, who has not treated the injured party, but has examined him solely as a basis on which to found an opinion to be given in a trial to recover damages for the injury sustained by the injured party, can not testify to the statements made by the injured party to him, or in his presence, during such examination, or base an opinion on the statements of the injured party. An expert witness called under such circumstances must base his opinion on objective, and not subjective, conditions.

If, therefore, it would have been improper for this physician to have inquired of the plaintiff as to the relative strength of her hands, or as to whether she could use her left leg as well as her right leg, or whether she could walk without dragging her left leg, and it would have been incompetent for him to have given to the jury the result of such interrogation by detailing to them her replies to said questions (as clearly it would have been), the court thinks it equally clear that he could not reach the same result by having her answer his questions by a nod of the head or by the pressure of her hands, or by asking her to sit on a chair, or to walk, and then giving to the jury the results of his observations.

The declarations of an injured party as to his physical condition, brought about as a result of injury, are self-serving, and, at best, hearsay evidence. Statements, however, made by an injured party which form a part of the res gestæ, or those made to his physician during treatment, constitute an exception to the general rule, and are admitted by reason of the fact that he will not be presumed to prevaricate at the very instant of his injury or while he is stating his physical condition to a physician from whom he expects and hopes to receive medical aid, nor will he be presumed to feign disease, pain or distress under those conditions in which he is ordinarily observed by strangers or his friends and neighbors. No such safeguards, however, surround him when he is being examined by an expert whom he has employed to examine him and to give evidence in his case which is about to be tried in court. To permit the injured party, while undergoing an examination by an expert in his employ, by jerks and twitches, by a pressure of his hand, by turning his toes in or by dragging one of his legs when walking, to thus make evidence for himself, and then to permit his expert to go before the jury and bolster up and strengthen by his opinion the self-serving testimony thus manufactured by the injured party, would open up the door wide for the grossest fraud, which might work on his adversary the most palpable injury.

The court does not intend to hold, however, that a physician may not be able, from an examination of an injured party, to form and express an opinion as to his physical condition and the probable cause which induced such condition, based on objective testimony alone, but what it intends to hold is that a physician who has not treated the injured party, but who has made an examination of the injured party solely with a view to testifying as an expert, should not be permitted to express an expert opinion to the jury based on subjective conditions, and then be allowed to fortify his opinion by stating to the jury acts of the injured party which could have been purely voluntary and under the control of the injured party, and which may rest on no other basis than the truthfulness of the injured party.

Rights Where One Physician Sells Out to Another.

The Court of Civil Appeals of Texas says that the findings of fact in the case of Yeakley vs. Gaston, though not so explicit as they might have been, admitted of the construction that Dr. Gaston did not undertake to sell to Dr. Yeakley his good will, but only agreed to sell his residence, his patronage of certain corporations, and to introduce Dr. Yeakley to his patients. This he did and moved away from B——, where both had up to this time been engaged in the practice of medicine. He was not, therefore, precluded from returning to B—— and resuming his practice; the good will not having been sold and no agreement having been entered into that he would not return, although it was contemplated by both parties at the time the trade was made that he would not do so. In the conclusions of law the lower court employed some language which seemed to indicate that the view was entertained that nothing short of an express agreement on the part of Dr. Gaston not to again resume the practice would be a bar to his doing so; but the authorities cited seem to this court to be sound in holding that the sale of the good will of a professional man carries with it the obligation that he will abstain from practice in future in the territory from which he thus binds himself to withdraw. Dwight vs. Hamilton, 113 Mass., 175; Beatty vs. Coble, 142 Ind., 329; Foss vs. Roby, 195 Mass., 292; Timmerman vs. Dever, 52 Mich., 34.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

October 15.

1 *Principles Underlying Treatment of Acute Intestinal Obstruction. C. L. Scudder, Boston.
2 Desirability of Instruction in Psychotherapy in Medical Schools and Its Introduction at Tufts. M. Prince, Boston.
3 Congenital Varices of the Right Leg and External Genital Organs. H. W. Goodall, Boston.
4 Acute Poliomyelitis Following Tonsillitis. K. Emerson, Worcester, Mass.

1. **Acute Intestinal Obstruction.**—Scudder divides intestinal obstruction into non-mechanical and mechanical. The non-mechanical group includes those instances of abdominal pain, distention and vomiting with constipation seen under the following conditions: 1, Associated with an abdominal contusion; 2, those obstructions associated with abdominal inflammatory processes, as, for example, appendicitis; 3, obstruction associated with pneumonia; 4, obstruction with acute nephritis; 5, obstruction encountered after clean laparotomy wounds, due primarily to trauma or unrecognizable sepsis.

He states that the foregoing are not the result primarily of mechanical conditions, but probably of infection. probably acting directly or indirectly on the neuromuscular intestinal mechanism. Such patients require, at least at the onset, rectal enemata, physostigma, if there is no gross sepsis, lavage of the stomach, the use of the rectal tube and possibly ileostomy or colostomy temporarily to relieve the physical condition. The mechanical group includes the obstructions caused by a band and an adhesion, a kink of the intestine, an intussusception, a twist or volvulus, a stone within the lumen of the gut, a new growth and tumor pressing on the outside of the bowel, by tumors growing in the wall of the bowel and by the various forms of hernia.

Scudder graphically describes the symptoms of unrelieved acute mechanical obstruction, and says that the anatomic mechanic conditions associated with intestinal obstruction formerly naturally attracted most attention and concern. He asks: "What happens in an acute intestinal obstruction? What changes take place locally in the bowel? What causes the great shock? Why is death so early?" Two notable factors are present in every intestinal obstruction. First, there is obstruction to the passage of the normal intestinal contents, and, second, there is an obstruction to the circulation in the wall of the gut. The symptoms are out of all proportion to the first factor, the intestinal stasis. He discusses the vascular changes and then the changes in the gut contents, consequent on the development of bacteria, including the paralysis of the gut which is occasioned by the direct action of the toxins within the intestine on the plexus of Auerbach. The development of gas increases the distention. After discussing the various theories of the cause of the symptoms present, Scudder states that the important and startling clinical fact in cases of intestinal obstruction is the profound intoxication, the toxemia, the general sepsis. The cause of this toxemia is an acute infection from the damaged gut. In the light of the later findings, what should be the treatment of a suspected case of acute intestinal obstruction? The changes in the bowel are so rapid that, the diagnosis having been made, action should be immediate. Delay may mean death. If there is doubt about the diagnosis, and the patient has abdominal pain without involuntary muscle spasm, is distended without a temperature, no cathartics should be given by mouth. More harm is caused by the common practice of administering cathartics in abdominal pain in which the diagnosis is uncertain than in almost any other way. No massage should be given to the abdomen for fear of causing perforation or of spreading the infection. The patient should be kept in bed and quiet. No food should be administered by mouth for fear of causing intestinal peristalsis and thus increasing the peritonitis. No water should be allowed to be swallowed. Very little water is absorbed directly from the stomach. The swallowing of water increases peristalsis. No morphin should be given until operation is decided on or the diagnosis is made, for morphin will conceal symptoms. If there is vomiting the stomach should be washed out with warm water. Early diagnosis permits early operative relief and early operation gives usually, though not always, a low mortality. It is not necessary to determine the form of obstruction; it is sufficient to realize that there exists a serious intra-abdominal operable intestinal lesion. Scudder describes the operative procedure and discusses the method of anastomosis after resection. He concludes with an analysis of 121 cases of acute intestinal obstruction at the Massachusetts General Hospital.

New York Medical Journal.

October 17.

5 *Achievements of Modern Surgery. F. L. Hupp, Wheeling, W. Va.
6 *Middle Ear Suppuration. W. S. Bryant, New York.
7 Neuromuscular Coordinations Having Educational Value. L. H. Gulick, New York.
8 Artificial Hyperemia and Its Therapeutic Application. A. B. Jackson, Philadelphia.
9 *Stomach [illegible] S. Basch, New York.
10 Lepra T [illegible] New York.
11 Foreign [illegible] Stomach. W. Lathrop, Hazleton, Pa.
12 Traumatic Insanity. J. W. Hartigan, Morgantown, W. Va.

5. This article was published in *West Virginia Medical Journal*, August, 1908.

6. **Middle-Ear Suppuration.**—Bryant discusses the diagnosis and treatment of middle-ear suppuration. The indication for section of the drum membrane is the presence of pus; the indications for mastoid operation in acute and subacute otitis media purulenta are extratympanic extensions, persisting a time after tympanic drainage has been established; for operation in otitis media purulenta chronica are extratympanic extensions of inflammation or other complications. In all complicated cases operative treatment gives quicker and better results than the expectant treatment. Cosmetic effect sometimes requires the closure of a postaural fistula. Perforation of the drum needs reparative help. Loss of parts of the sound-conducting mechanism needs mechanical substitutes. Most important is the postconvalescent care of suppurative ears. If the drum mebrane is closed there is little to do. If a small perforation persists, an occasional inspection is needed to see that the drum cavity remains clear and clean. If there is a large perforation, the patient must be kept under observation at increasing intervals until the lining of the tympanum is white, glistening and free from the suspicion of crust formations or epithelial accumulations; otherwise a recurrence of suppuration may be looked for at any time. If there is a tendency for cholesteatomatous formations, the patient must be kept under observation until this tendency has been successfully overcome. With early treatment, prognosis indicates arrest of suppuration, restoration of hearing and preservation of life. A cessation of the suppuration, and an improvement in hearing is assured, except in the rare, fulminating cases in which a fatal issue may be expected. By treatment commenced before the loss of important structures, the hearing may be restored to normal. Fatal results are avoided by early treatment.

9. **Stomach and Intestinal Gases.**—In this article Basch describes in detail the apparatus referred to in his article in the preceding issue, which was abstracted in THE JOURNAL, Oct. 24, 1908, p. 1462.

Medical Record, New York.

October 17.

13 *Diagnosis of Peptic Ulcer. D. Roberts, Brooklyn.
14 *Rational Treatment of Splanchnoptosis. J. M. Taylor, Philadelphia.
15 The Personal Factor in Disease. B. Robinson, New York.
16 Abscess of the Lung, from Ascending Infection from Appendicitis. J. N. Hall, Denver.
17 Gonorrheal Septicemia, with Marked Cardiac Involvement. J. D. Thomas, Washington, D. C.
18 *Vessel Anastomosis by means of Rubber Tubing. W. Ward, New York.

13. **Peptic Ulcer.**—Roberts says that the typical ulcer pain develops from half an hour to two hours after eating. and gradually; is burning. boring, cutting or stabbing: is localized in the middle line close to the ensiform cartilage, pos-

sibly radiating to the back or precordium; is regular in occurrence and is induced principally by solid foods, rarely by water; lasts for some time, and is often terminated only by vomiting, ingestion of alkali or albuminous food. The tenderness is pronounced, and sharply localized over a small area in the middle line, between the ensiform cartilage and a point midway down to the umbilicus. Vomiting is not at all essential to the clinical picture. Regurgitation is often mistaken for vomiting. Actual hematemesis, taken with these other symptoms, is almost absolutely diagnostic. Black stools, while suspicious, so often result from constipation and a meat diet that they should not be accepted as evidence of bleeding. Belching, much mentioned of late as an important symptom, is not of itself suggestive, and if added to the history of pain, aids but little in the diagnosis. Hypochlorhydria is not rarely found; it is contributory evidence, but does not rule out carcinoma. In gastric ulcer, hypersecretion is an even more constant finding than hyperchlorhydria. Gastroscopy promises to be of value in occasional cases. The necessity of prolonged observations is emphasized.

14. **Splanchnoptosis.**—Taylor says that the causes of splanchnoptosis lie far back in the origins of growth and development and have a neurasthenic tendency as their source. Many factors blamed are usually efficient or instrumental only, and are not primary causes. We have to overcome cellular vitiation in several situations, among which are: 1, Loss of nutritive vigor in the vasomotor subcenters in the cord, through which the affected parts are innervated; and consequently, 2, impairment of nutrition in the internal structures which contribute to support; 3, relative weakness in the external abdominal muscles. Dietetic measures are indicated to overcome intestinal putrefaction. Replacement of the wandering viscus should be performed by the physician himself. The abdominal viscera are supported by the combined action of (a) the skeletal structures, (b) mutual adaptations among the structures within the cavity of the abdomen, (c) the diaphragm, (d) the omentum, and (e) the external abdominal walls. Measures must be taken to develop the supports, and to secure tone of the muscles of the torso. No muscles of the human body are so neglected as those of the diaphragm, external abdominal muscles, and those involved in respiration. Systematic breathing exercises are recommended. Artificial aid may be obtained by abdominal supports, among which Taylor describes that of Longstreth. Finally, he directs attention to the potentialities evoked by manipulating the paravertebral tissues, with the purpose of so stimulating the vasomotor subcenters that the activity of the local circulation shall enhance nutrition in the disaffected structure. By the rational treatment of splanchnoptoses and their underlying neurasthenic condition, many invalids can be rescued from lives of misery or from cruel limitations.

18. **Vessel Anastomosis by Rubber Tubing.**—Ward describes experiments in which rubber tubing, of the pure black gum variety, was implanted in the aortas of cats, and sutured to the vessel. One cat recovered perfectly and three weeks later was killed, the result of the autopsy showing that the transplanted segment of rubber tubing was completely thrombosed, and the circulation in the hind extremities had been maintained by an effective anastomosis between branches of the adrenolumbar and iliolumbar arteries, branches of the aorta given off just above and below the site of implantation. There was a thick zone of dense connective tissue encircling the rubber and adjacent portions of the aorta. Ward says that it is not difficult to imagine a surgical situation in which the immediate restoration of the circulation is imperative and in which the necessary living tissue is not at hand and can not be immediately obtained. Under these circumstances rubber tubing, in some cases at least, might be used to maintain the circulation temporarily.

Lancet Clinic, Cincinnati.

October 17.

19 *Currents and Counter-Currents in Medical Advance. A. R. Elliott, Chicago.
20 *Tropical Diseases and the Mississippi Valley. G. Dock, New Orleans.
21 *Present Status of Kidney Surgery. A. D. Bevan, Chicago.
22 Dante: Physician, (continued). A. G. Drury, Cincinnati.

19, 20, 21. Abstracts of these papers appear in our report of the meeting of the Mississippi Valley Medical Association.

American Journal of Medical Sciences, Philadelphia.

September.

23 *Relations of the Female Reproductive Organs to Internal Diseases. F. Müller, Munich, Germany.
24 *Specific Treatment of Typhoid. V. C. Vaughan, Ann Arbor, Mich.
25 *Hypodermic Use of Quinin and Urea Hydrochlorid in Diagnosis and Treatment of Acute and Chronic Malarial Infections. S. Solis-Cohen, Philadelphia.
26 Resistance of Diabetics to Bacterial Infection. J. C. DaCosta and E. J. G. Beardsley, Philadelphia.
27 Blood Pressure in Arteriosclerosis. R. D. Rudolf, Toronto.
28 Symptoms Attributed to the Myocardium in Reality Often of Peripheral Origin. L. F. Bishop, New York.
29 Persistent Patency of the Ductus Arteriosus. H. G. Wells, Chicago.
30 *Leukanemia. W. P. Elmer, St. Louis.
31 Pathologic Anatomy of Bronchial Asthma. A. G. Ellis, Philadelphia.
32 *Henry Gray, Anatomist. F. K. Boland, Atlanta, Ga.

23. **The Female Reproductive Organs and Internal Diseases.**—Müller takes up in detail those internal diseases which have been observed in connection with the physiologic processes of the female generative organs, namely, puberty, pregnancy, and the menopause, and discusses the significance of the pathologic processes in the female reproductive organs which give rise to medical conditions. He also considers the relation of certain internal diseases, especially kidney lesions, to the disorders of the female reproductive apparatus.

24. **Typhoid Fever.**—Vaughan thinks that the time has come to recognize that the mechanism of immunity is not the same in all infections and intoxications. There are at least three forms: 1, Antitoxin immunity; 2, phagocytic immunity; 3, lytic immunity. An essential difference between diphtheria and typhoid is that the poison of diphtheria is a soluble toxin, while that of typhoid is not, and if our definition of a toxin is a poison that may be used to generate an antibody to itself, the active ingredient in the typhoid bacillus is not a toxin because there is not the slightest evidence that in any animal it elaborates an antibody. Antitoxic immunity need not be looked for, because there is no antitoxin for the typhoid poison; neither need phagocytic immunity, because phagocytic action certainly is not a marked factor in the natural recovery from this disease. Vaughan has therefore made investigations, which he describes in detail, to see what we can make out of lytic action in the study of the nature, progress and recession of typhoid. He concludes that we shall never get an antitoxin for the treatment of typhoid comparable with that which we have for diphtheria, but that the residue may be of service, especially in preventing relapses, and if we can find some method of early diagnosis it may prove of value in aborting the disease.

25. **Quinin and Urea Hydrochlorid in Malarial Infections.**—The object of Solis-Cohen's paper is to recall attention to the following points: 1, The superiority of this salt over other preparations of quinin; 2, the periods of either six and one-half days approximately, or thirteen days approximately, during which patients previously exhibiting irregular recurrences of paroxysms, or regular quotidian, tertian or quartan recurrences, remain free from paroxysms following a single injection of about 1 gram (15 grains) of this salt; 3, the similarity between these periods of six and one-half and thirteen days, respectively, and the periods of cyst formation of sporozoite development in the sexual cycle of the parasite, as observed in the mosquito; 4, the diagnostic value of such injections, both in proving and in disproving malarial infection in cases in which parasites have not been discovered in the peripheral blood; 5, as a variant of the first point mentioned, the probable therapeutic superiority of this quinin salt in pernicious malaria is emphasized.

30. **Leukanemia.**—Elmer discusses this condition on the basis of a case which he compares with others described in the literature, and concludes that it is logical to suppose that while leukanemia has a definite clinical and hematologic picture, it is not a separate disease, but the result of some un-

known infection which in certain individuals might cause an anemia, in others a leukemia, and in others, who are especially susceptible, a clinical picture which combines the two.

32. **Henry Gray.**—This interesting biographic note of an anatomist of whom little is recorded, will be abstracted in the Department of Miscellany of The Journal.

American Journal of Surgery, New York.

September.

33 *Flatfoot. R. O. Meisenbach, Buffalo.
34 Case of Brain Abscess Associated with Chronic Purulent Otitis Media with Description of Operative Technic Followed. J. R. Page, New York.
35 Two Cases of Mastoiditis. J. H. Crawford, Atlanta, Ga.
36 Three Cases of Laryngeal Growth Removed by Direct Laryngoscopy. J. McCoy, New York.
37 Importance of Early Surgical Treatment of Gallstone Disease. G. E. Gavin, Mobile, Ala.
38 *Apparatus for Providing a Large Number of Visitors with a Complete View and for Securing Photographs and Moving Pictures of Operations. C. H. Duncan, New York.
39 Practical Points in Anesthesia. F. E. Neef, New York.
40 Litholapaxy as an Office Operation. J. K. Swinburne, New York.
41 New Rectal Speculum. G. A. Humphreys, New York.

33. **Flatfoot.**—Meisenbach bases his article on over 1,000 cases of flatfoot. He considers the congenital, and the acquired, or static, varieties. The former is by far the rarer. In the acquired, or static, flatfoot, standing for a long time in the abducted position, excessive superimposed body weight, faulty shoes, lack of exercise, excessive exercise, faulty muscular action, rapid growth, inequality of muscular action, paralysis of certain muscles, disease, general debility, trauma and primary faulty attitude, destroying the alignment of the ankle, knee, hip or spine, may all be causative factors.

At the age when growth is most rapid flatfoot frequently develops, and particularly in girls at puberty. Meisenbach describes the symptoms, and says that treatment consists essentially in restoring the foot to a normal position and retaining it so. The important factor is a correct diagnosis of the foot condition, which can only be made by the complete study of the individual case. Imprints of the feet are valueless and often misleading from a diagnostic standpoint. Many so-called cases of rheumatism are really static foot errors, as are also frequently growing pains. He describes the operative and non-operative treatment. The proper construction of a shoe he describes as follows: The cardinal features in a shoe best suited to ordinary wear should be a straight inner border on a moderately high last, the sole should not be too thick, and the toes should have enough space for action. The leather should be light and flexible. The heel should come forward slightly more on the inner than on the outer side, and should be of average height. The inside of the shoe should be concave at its heel.

38. **Apparatus for Rendering Operations Visible to Many.**—Duncan has devised a method of rendering operations visible to a body of observers by means of a camera suspended above the field of operation, the view from which, after being focused on a ground glass, is reflected horizontally by a prism on to a screen that separates the observers from the operation itself. The apparatus can also be used for photographing the operation as well as for the taking of moving pictures. Duncan claims for it the advantages that it provides to a body of visitors the same view of an operation as though each of them had his eyes directly over the field; it completely separates visitors from the surgeon and his staff, thus eliminating both the danger of contamination and the distraction of the operators; it saves the audience from the fumes of narcotics and the steam of sterilizers, and affords them cool fresh air without chilling the patient.

St. Paul Medical Journal.

September.

42 *Principle of Cerebral Decompression. J. G. Mumford, Boston.
43 *Shall We Use Vaginal or Suprapubic Drainage in Acute Diffuse Peritonitis in the Female? G. R. Curran, Mankato, Minn.
44 *Our Present Understanding of the Non-Tuberculous (Rheumatoid) Diseases of the Joints. J. E. Goldthwait, Boston.
45 Dementia Præcox. C. R. Ball, St. Paul.

42. **Cerebral Decompression.**—Mumford points out that, besides tumors, there are numerous causes of intracranial pressure giving rise to increased tension—abscess, sinus thrombosis and phlebitis, hydrocephalus, hemorrhage, meningitis, depressed bone fragments, and foreign bodies; several of which conditions give rise to general as well as local irritations. The patients do not often die from septic infection, loss of blood, or interference with the cortical function, but in the vast majority of cases from cardiac and respiratory paralysis, due to inhibition of the functions of the medulla and the basal ganglia, consequent on intracranial tension. Mumford presents three cases, which illustrate types of disease that may be cured by decompressive measures—types of disease in no way associated with those familiar intracranial tumors for which commonly decompression is employed: A case of Jacksonian epilepsy; a case of diffuse suppurative leptomeningitis; a case of profound mental alteration and depression, following trauma, without obvious lesion.

43. **Drainage in Acute Diffuse Peritonitis.**—Curran addressed twenty prominent surgeons as to the advantage or disadvantage of vaginal over suprapubic drainage in acute profuse suppuration of the abdominal cavity. The consensus of opinion was undoubtedly in favor of suprapubic drainage. This accords with his own view, when he says that for some years he has begun to feel that vaginal drainage is not only inferior to suprapubic, but in some cases actually is harmful.

44. **Non-Tuberculous Rheumatoid Joint Diseases.**—Goldthwait discusses those features of the rheumatoid problem in which there have been marked changes during the past few years. The first type showing progress is that designated infectious arthritis; the second, that in which the local joint lesions are due to strain, rather than to true disease; the third that in which peculiarities in the development of the scapulæ exist, and result in strain or irritation at the upper part of the spine and scapular regions. He discusses these three types in detail.

Northwestern Lancet, Minneapolis.

September.

46 *Actinomycosis, with Report of Case of Cervicofacial Type. J. H. Adair, Owatonna, Minn.
47 Points in Physical Examination. H. Z. Griffin, Rochester, Minn.
48 Shock and Its Treatment. C. S. Bigelow, Dodge Center, Minn.
49 Indications for Herniotomy in Children. E. S. Judd, Rochester, Minn.
50 Intrauterine Hemorrhage during Pregnancy and from Premature Separation of the Normally Implanted Placenta. F. L. Adair, Minneapolis.

46. **Actinomycosis.**—Adair discusses the history of our knowledge of actinomycosis and the characteristics of the disease. He describes a case in which the face and neck were affected. The treatment consisted of large doses of potassium iodid and a 40 per cent. ichthyol ointment, with swabbing out of the sinuses with saturated solution of potassium iodid and 95 per cent. carbolic acid. No effect was observed, but considerable improvement seemed to result from swabbing the sinuses and discharging points with a 10 per cent. mixture of formaldehyd in glycerin. Adair is skeptical as to the good accomplished by use of the potassium iodid. The free and uninterrupted discharge of the ray fungus colonies, with the lessening chances of reinfection therefrom, seems to offer a more reasonable explanation for the improvement noted in cases situated outside the cavities of the body, than does the administration of any remedy internally, while the high mortality seen in those cases occurring internally points to a retention of the infective material, with a consequent extension of the disease process. He believes that the only effect obtained from too active measures employed to eliminate the disease, such as the curetting of sinuses, excision of granulation tissue, and the like, is to carry the infection still deeper and wider, prolonging its life and activity and rendering more likely the occurrence of pyemia. The only external evidences of the disease remaining in this case are the two or three depressed and adherent scars, which still disfigure the face, mute witnesses of his ill-advised efforts forcibly to eradicate the infection.

American Medicine, New York.

September.

51 Tuberculosis of the Mucous Membrane of the Mouth. J. C. Sharp, New York.
52 Polioencephalitis Infantilis. E. K. Shelmerdine, Philadelphia.
53 Practical Points in Microscopic Examination of the Urine. L. W. Bremerman, Chicago.
54 Varieties of Tubercle Bacilli and Certain Allied Forms of Micro-Organisms. H. E. Lewis, New York.
55 *A Continent without an Orphan. B. Holmes, Chicago.
56 Transitory Disturbances of Consciousness in Epileptics. S. P. Goodhart, New York.
57 Sewage Menace in New York Harbor. Charles E. Woodruff, U. S. Army.
58 Osteomyelitis. E. W. Lee, New York.
59 *Sensism and Cognition. A. O'Malley, Philadelphia.

55. **A Continent Without an Orphan.**—Holmes describes the Australian method of dealing with orphans. Every fatherless and motherless child is the child of the state. The Children's Council, instead of placing them in institutions, provides a foster father and a foster mother. An officer of the council visits the infant every week, as does the council physician at regular intervals. Records are kept at the office of the council and the foster mother is paid a weekly stipend from the treasury of the council. As the child grows older, it is placed in a home under the same inspection. It goes to school and the teacher reports to the council as to a parent. Later. for a part of the year, it is hired out to work, the salary being deposited to its credit in the postal savings bank. Holmes asks whether America, which is richer than Australia, can not be as reasonable and as humane.

59. **Sensism and Cognition.**—O'Malley gives a philosophic discussion of the question, started by MacDougall in *American Medicine*, April, 1907, in which the inference was drawn of a ponderable and therefore material soul. Articles in continuation of the discussion appeared in the same journal November, 1907, and June, 1908.

Journal of the Indiana State Medical Association, Fort Wayne.

September.

60 *Case of Raynaud's Disease. J. Kolmer, Indianapolis.
61 Management of Normal Labor. J. M. Ketcham, Indianapolis.
62 Toxemia of Pregnancy. L. Burckhardt, Indianapolis.
63 Six Hundred Cases of Labor in Private Practice. H. A. Cowling, Muncie.

60. **Raynaud's Disease.**—Kolmer took the opportunity afforded by a case of Raynaud's disease terminating in gangrene, to investigate the relation of the ordinary pus cocci to the etiology of this disease. By determining the opsonic index to staphylococci and streptococci, compared with that of the average in four healthy persons, he found that the index was practically normal in the case of *Streptococcus pyogenes*, and *Staphylococcus pyogenes albus*, and *aureus*. In the case of *Staphylococcus citreus* the patient's serum showed an index nearly 8 per cent. higher than the normal serum. Kolmer infers that the process was not associated with any of the ordinary pus-producing bacteria. The article describes the pathology, symptomatology, diagnosis and treatment of the disease and reports one case in which the local gangrene was cured by amputation and the general condition relieved.

Chicago Medical Recorder.

September.

64 Constipation. A. D. Kohn, Chicago.
65 Successful Infant Feeding. T. G. Allen, Chicago.
66 Drug Actions in Gonorrhea and Syphilis. F. Baumann, Chicago.
67 Intranasal Method for Opening the Frontal Sinus and Establishing the Largest Possible Drainage. R. H. Good, Chicago.
68 *Diagnosis Under Artificial Light. A. C. Morrison.

68. **Diagnosis Under Artificial Light.**—Morrison discusses the illusions of color produced by various forms of artificial light and points out the difficulty entailed on physicians in using such illumination for purposes of diagnosis. He urges the great value of the acetylene light for medical use, and describes it as "daylight at night."

Journal of the Arkansas Medical Society, Little Rock.

September.

69 *Indications and Contraindications for Cardiac Tonics, Especially Digitalis. T. H. Stucky, Louisville, Ky.
70 *Intussusception. St. C. Cooper, Fort Smith.
71 *Drainage. C. R. Shinault, Little Rock.
72 *Sciatica. G. E. Cannon, Magnolia.
73 Sporadic Cases of Diphtheria. C. C. Price, Douglas.

69 to 72. Abstracted in THE JOURNAL, July 18, 1908, p. 250.

Journal of the New Mexico Medical Society, Albuquerque.

September.

74 New Mexico Medical Society: Some Duties and Opportunities. R. E. McBride, Las Cruces.
75 Vaccine Therapy: Its Value to the General Practitioner. R. Smart, Albuquerque.

St. Louis Medical Review.

September.

76 Early Diagnosis of Tuberculosis. S. A. Knopf, New York.
77 Personal Experience in Gunshot Wounds. J. D. Seba, Bland, Mo.
78 Rupture of the Liver. J. F. Menestrina, St. Louis.

Alabama Medical Journal, Birmingham.

September.

79 Diagnosis of Extrauterine Pregnancy. G. R. Holden, Jacksonville, Fla.
80 Treatment of Puerperal Sepsis. E. M. Prince, Birmingham.
81 Sanitation of Small Cities. H. G. Perry, Greensboro.
82 *Autointoxication or Biliousness.* E. P. Lacey, Bessemer.

Archives of Otology, New Rochelle, N. Y.

June-August.

83 Case of Mastoiditis, Complicated by Purulent Meningitis, Encephalitis and Phlebitis of Sigmoid Sinus, Jugular Bulb, and Internal Jugular Vein. Operation. Recovery. J. F. McKernon, New York.
84 Mastoiditis in the Aged. H. A. Alderton, Brooklyn, N. Y.
85 Double Mastoiditis, Sigmoid Sinus and Jugular Thrombosis. S. Oppenheimer, New York.
86 Case of Recurrent Keloid of Scalp and Lobule of Ear. G. H. Cocks, New York.
87 New Instrument for Treatment of Disease of the Ear. E. P. Fowler, New York.
88 Sinus Thrombosis, Following Removal of Granulation Tissue from the Middle Ear; Excision of the Internal Jugular Vein; Recovery. E. B. Dench, New York.
89 Case of Eustachian Catarrh with Hyperinflation. W. C. Braislin, Brooklyn.
90 Do not Remove the Thrombosis. F. Voss, Riga, Russia.
91 Foreign Bodies in the Nasal Cavity as a Cause of Maxillary Empyema. G. Krebs, Hildesheim.
92 Otitic Sinus Thrombosis and Pyemia. S. Alexander, Vienna.

Wisconsin Medical Journal, Milwaukee.

September.

93 Present Status of Medical Expert Testimony on Insanity. Plea for Corrective Legislation. C. D. Studley, Milwaukee.
94 Syphilis in the Light of Modern Research. S. Schiller, Milwaukee.
95 Use of Cocain as a Local Anesthetic in the Radial Operation of Inguinal Hernia. W. G. Nicholson, Green Bay.
96 Chronic Prostatitis. E. A. Fletcher, Milwaukee.

Laryngoscope, St. Louis, Mo.

September.

97 Malignant Disease of the Nose. E. N. Holmes, Boston.
98 Treatment of Fractures and Depressed Deformities of the Nose by a New Method with the Use of a Combined Bridge and Intranasal Splints. W. W. Carter, New York.
99 Hyperesthetic Rhinitis (Hay Fever) with Suggestions for Its Rational Treatment. O. J. Stein, Chicago.
100 Physiologic Hearing Tests. T. M. Stewart, Cincinnati.
101 Climate of Colorado Etiologically and Therapeutically Considered. J. A. Patterson, Colorado Springs.
102 Climate of the North and Northwest in Its Etiologic and Therapeutic Relation to Diseases of the Nose, Throat and Ear. C N. Spratt, Minneapolis.
103 The Headache of Non-Suppurative Frontal Sinuitis. F. Brawley, Chicago.
104 Technic of Adenoidectomy and a Perfected Curette. F. G. Stubbs, Chicago.
105 Status Lymphaticus, with Particular Reference to Anesthesia in Tonsil and Adenoid Operation. W. H. Roberts, Pasadena, Cal.
106 Surgical Emergencies Associated with the Tuberculous Larynx. C. P. Grayson, Philadelphia.
107 Removal of a Foreign Body, a Grain of Corn, from the Trachea of Child, 6 Years Old. J. H. Bryan, Washington, D. C.
108 *Angiomyxosarcoma* of Larynx with Expulsion of Large Tumor. L. R. H. Gantt, Spartanburg, S. C.
109 Supplemental Report of a Case of Xanthoma, with Exhibition of Patient. J. E. Rhodes, Chicago.

American Journal of Orthopedic Surgery, Philadelphia.

August.

110 Present Needs of an Orthopedic Service. H. L. Taylor, New York.
111 Albert Hoffa. R. B. Osgood, Boston.
112 *New Treatment for Old Tuberculous Sinuses. J. Ridlon and W. Blanchard, Chicago.
113 Influence of Weight-Bearing on Treatment of Tuberculous Hip-Joint Disease. V. P. Gibney, New York.
114 *Tuberculin in Orthopedic Practice. C. Ogilvy, New York.
115 *Tuberculin in Orthopedic Surgery. J. J. Nutt and T. W. Hastings, New York.
116 *Further Report on the Treatment of Joint Tuberculosis with Marmorek's Serum. A. H. Freiberg, Cincinnati, Ohio.
117 *Blastomycosis: Report of Two Cases Resembling Bone Tuberculosis. E. W Ryerson, Chicago.
118 *Cause of Atrophy in Joint Disease. A. T. Legg, Boston.
119 *Necessity for Early Orthopedic Treatment in Poliomyelitis. W. R. Townsend, New York.
120 Treatment of Lateral Curvature. E. H. Bradford and R. Soutter, Boston.

112, 114 to 118. Abstracted in THE JOURNAL, July 25, 1908, pp. 342. 343. 344.

119. Abstracted in THE JOURNAL, Aug. 8, 1908, p. 527.

Colorado Medicine, Denver.

October.

121 *President's address, Colorado State Medical Society. H. B. Whitney, Denver.

121. Abstracted in THE JOURNAL, Oct. 3, 1908, p. 1177.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

October.

122 *Confusional Insanity and Dementia Præcox. P. C. Knapp, Boston.
123 *Apraxia, with Autopsy. J. H. W. Rhein, Philadelphia.

122. Abstracted in THE JOURNAL, July 11, 1908, p. 164.

123. Abstracted in THE JOURNAL, June 20, 1908, p. 2105.

Buffalo Medical Journal.

October.

124 Treatment of Acute Gonorrhea. B. F. Senftenberg and J. S. Kreshover, New York.
125 *Diagnosis Under Artificial Light, Its Difficulties and a Solution of the Problem. A. C. Morrison, Chicago.
126 Compact Ether-Freezing Microtome. E. C. Mann, Buffalo.

125. This article also appears in the *Chicago Medical Recorder*, September, 1908; see abstract No. 68, p. 1552.

Journal of the Kansas Medical Society, Kansas City.

October.

127 Local Anesthesia. M. T. Sudler, Kansas City.
128 Bacteriology and Pathology of Acute Rheumatism. C. C. Nesselrode, Kansas City
129 Fibroma of the Abdominal Wall. G. H. Hoxie and W. K. Trimble, Rosedale, Kan.
130 *Sociologic Aspect of Gonorrhea. S. C. Emley, Iola, Kan.

130. Abstracted in THE JOURNAL, May 30, 1908, p. 1828.

Journal of the Medical Society of New Jersey, Orange.

October.

131 *Early Recognition and Early Operation in Acute Intestinal Obstruction. R. Curts, Paterson, N. J.
132 Excision of the Stomach for Carcinoma. E. Staehlin, Newark.
133 Reflex Gastric Symptoms a Factor in Surgical Diseases of the Abdomen. J. P. Reilly, Elizabeth, N. J.
134 *Tetanus, Its Prevention and Treatment. J. H. Underwood, Woodbury, N. J.

131. Abstracted in THE JOURNAL, Aug. 22, 1908, p. 700.

134. Abstracted in THE JOURNAL, Aug. 22, 1908, p. 699.

Bulletin of the American Academy of Medicine, Easton, Pa.

October.

135 *Women in Business as Affecting Home Life and Marriage. A. S. Lobingier, Los Angeles.
136 *Women in Business as Affecting Health. L. D. Bulkley, New York.
137 *Women in Business as Affecting Health and Morals. N. Bridge, Los Angeles.
138 Woman and the Future of the Race. O. Juettner, Cincinnati.
139 *Female Labor as a Factor in Social Life. A. L. Benedict, Buffalo.
140 *Modern Methods of Education and Their Effects on the Health of the Race. H. Hoxie, Kansas City.

135 to 137, 139, 140. Abstracted in THE JOURNAL, Aug. 1, 1908, p. 429.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

October 3.

1 *Recent Advances in Science and Their Bearing on Medicine and Surgery. Sir P. Manson.
2 *Treatment of Inoperable Cancer. H. Morris.
3 *Pregnancy, Parturition, and the Puerperium After Ventrifixation (Hysteropexis Hypogastria). Sir W. J. Sinclair.
4 Cancer of the Colon. H. S. Clogg.

1. **Recent Advances in Science.**—Manson points out the appropriateness of tropical medicine as a theme for the Huxley lecture, from its connection with natural history. He discusses the limits that define tropical diseases and describes the constitution of an ideal school of tropical medicine. He notes that certain blood-haunting protozoa requiring an insect or other arthropod vector make use of that vector as a medium for sexual development, and asks whether this may not be regarded as a general law, applicable to all such blood-haunting protozoa. He summarizes the arguments pro and con, and favors the former. He then submits a hypothesis as an explanation of the double life, if it may be so described, of so many and so widely separated parasites, including protozoa, nematodes, trematodes and cestodes, a hypothesis that seems to harmonize the facts and to conform to the doctrine of evolution. The hypothesis is as follows: Vertebrates, arthropods, molluscs, helminths, protozoa have all of them sprung from a common ancestor, or if not from one common ancestor, from similar ancestors. Very early in the growth of the family tree a certain originally free organism became at first intermittingly, then finally and permanently, parasitic on another organism. In time a definite host and parasite relationship was established between the two. From the original host varieties, species, genera, and so on were gradually evolved. Concurrently with this evolution in the host, the parasite, just as its host had done, adapting itself to its changing environment, evolved new varieties, species, genera, etc. In the course of these evolutionary processes there came a time when, say, the insect and vertebrate strains began to diverge. A certain organism was parasite on the common insect vertebrate ancestor. The process of evolution in this host ancestor being necessarily very gradual, the parasite—as is the case with many existing parasites—was capable of adapting itself to the closely related varieties of the host, among others to the insect-resulting strain and to the vertebrate-resulting strain. Divergence in these host-strains continuing, varieties became species, species genera, and so on, until insect and vertebrate, as they exist at the present day, were evolved. In the early stages of the evolutionary process the parasite could live in either vertebrate strain or insect strain of host indifferently, but there came a time when it was often more to the advantage of the parasite to pass its sexual life in the ancestral insect strain, its asexual life in the ancestral vertebrate strain. In the process of evolution, this at first more or less accidental habit—the expression "optional habit" can hardly be applied to a parasite—became fixed and has been transmitted, so that now the sexual life of the malaria parasite is passed in the mosquito, its asexual life in man.

2. **Inoperable Cancer.**—Morris discusses palliative operations and other methods of treatment, and then takes up the trypsin treatment at considerable length. The following ferments have been tried:

Amylopsin, in addition to trypsin, suggested on embryologic grounds (Beard), liver ferment (von Leyden and Bergell), placental tryptic ferment (Bunn, Liepmann), papayotin (Branch, Lucas), and lastly, erepsin—which is contained in the intestinal mucous membrane (Cohnheim), but is common to all organs and tissues (Vernon)—has been recommended and is being experimented with by Shaw-Mackenzie.

Only trypsin has had sufficient time for any number of cases to be reported, and the interval elapsed hardly justifies definite conclusions from clinical data alone. Morris discusses the contradictory opinions of investigators in England, America and Germany. While trypsin speedily removes sloughing tissue and provides a clean surface free from sepsis, thus adding to the comfort of the patient, he does not find sufficient evidence in support of more radical results. He discusses Beard's claims of the cure of cancer in mice, and mentions experiments which showed that trypsin treatment was powerless to prevent inoculated tissue from taking.

3. **Pregnancy and Ventrifixation.**—Sinclair emphasizes the fact that ventrifixation is suitable only for women at the child-bearing period of life, the atrophying uterus after the menopause requires other methods of treatment. Schultze's process he dismisses with a word. Massage is not suitable with a view to permanent cure. Schücking's operation is timid, futile and dangerous. Sänger's was neither thoroughly efficient nor permanent. Alexander's still holds its place with many, but Sinclair regards the number and variety of recent modifications as fair indication of disappointment. Sinclair abandoned the operation after forty-five cases. He considers the operation of ventrifixation, if efficiently done, the best for the treatment of chronic retroflexion of the uterus in women at the child-bearing period. He discusses the various operations for ventrifixation and ventrisuspension, and de-

scribes his own method. He reports seven cases of child-bearing subsequent to ventrifixation, and states that the operation has stood the tests of efficiency in nearly 300 cases. For prolapse the operation must be supplemented with colporrhaphy.

British Medical Journal, London.

October 3.

5 Fifty Years of Medical Education. A. Macalister.
6 *Radical Abdominal Operation for Carcinoma of the Cervix ("Wertheim's"). C. Berkeley and V. Bonney.
7 *Oxygen and Muscular Exercise as a Form of Treatment. L. Hill and M. Flack.
8 Case of Hereditary Brachydactyly. P. W. Matthew.
9 Diagnosis and Treatment of Cancer of the Breast. Sir W. Cheyne.
10 Diagnosis and Treatment of Malignant Disease of the Breast. H. J. Stiles.
11 *Treatment of Fractures by Mobilization and Massage. J. Lucas-Championnière.
12 Puncture of the Brain. H. Tillmanns.
13 Technic of Tarsectomy for Talipes. Ch. Willens.
14 Section of the Posterior Primary Divisions of the Upper Cervical Nerves in Spasmodic Torticollis. R. Kennedy.
15 Simplified Method of Performing Prostatectomy by the Combined Routes. J. L. Thomas.
16 Selection of the Method of Operating in Cancer of the Rectum. D. Drew.
17 Cholecystenterostomy in the Form of a "Y." A. Monprofit.
18 Indications for Nephrotomy and Nephrectomy. D. Newman.
19 Gastrostomy. W. Evans.
20 Indirect Treatment of Disease of the Epididymis and Testicle. E. M. Corner.
21 Cases of Hematuria. A. Fullerton.
22 *Painful Displacement of Ribs. A. DePage.
23 Technic of Cancer Operations with Reference to the Danger of Cancer Infection. C. Ryall.
24 Surgical Statistics; a Plea for Uniform Registration of Operation Results. E. W. H. Groves.

6. **Operation for Carcinoma of Cervix.**—Berkeley and Bonney discuss in detail certain points in relation to Wertheim's operation, namely, the separation of the bladder and of the ureters, the removal of the parametric tissue and glands, the control of hemorrhage, cancer infection of the operation area, septic infection thereof, also of the bladder and abdominal wound and duration of the operation. With regard to results they say that of the fifteen patients who recovered from the operation, fourteen are alive and show no signs of recurrence. The time that has elapsed, however, is so short that no stress is to be laid on this. Rather they would point to the improvement in the aspect of the patients, their increase in weight, and the pleasure and relief with which they view their escape from their distressing symptoms, temporary though it may be. These facts in themselves constitute a strong plea for the operation. They discuss the justifiability of the operation and its status from a pathologic standpoint and give a tabular report of their eighteen cases, with three deaths.

7. **Oxygen and Muscular Exercise.**—From further observations on athletes, on himself and on horses, Hill concludes that oxygen inhalation followed by or accompanying exercise is a most active and efficient form of treatment. He describes various experiments, and says that there can be no question that the influence of oxygen inhalation is very great on the untrained or fatigued man. It enables a man to increase considerably the metabolism of his body, and should be of value, therefore, in the treatment of people fat and scant of breath, and those who overeat and take too little exercise, and in cases of emphysema and of heart disease treated by graduated exercise. Possibly it may find a use in tropical climates to make exercise easier, and in men exhausted by the day's mental work and worry and who want a spin on their bicycle to make the blood circulate and the appetite good. To make the trial of oxygen easy and simple, he has constructed a little apparatus—a combined generator and inhaler, which he describes. With this, oxygen can be made almost as easily as soda water with a gasogen. Flack adds an account of Wolffe's swim across the English Channel. When the swimmer would have given up from exhaustion, about an hour and three-quarters after the start, oxygen was first administered, with wonderful restorative results. After this oxygen was administered every quarter of an hour. The result, though barren as regards the effect of oxygen in staving off fatigue, is regarded as demonstrating its great of the most advanced type.

11. **Treatment of Fractures.**—Lucas-Championnière lays down the principle, that absolute fixation of the fragments is not the most favorable condition for the phenomena necessary to repair at the site of a fracture. A certain amount of movement is the necessary condition. This movement is necessary to the vitality of the bone. A long experience has enabled him to demonstrate this clinically. Movements, immediate and graduated, with massage are the prime elements of his method of treatment. He discusses the effect in obviating pain and relieving muscular irritability, and describes the character of the massage and mobilization, which he says is applicable in all cases of fracture, though the method is of more value in articular fractures than in others. In certain cases, such as fractures of the leg, the elbow, the olecranon, and the clavicle, this method also assists in reduction. Simple mobilization should consist of slight and gradually increasing movements of the joints most remote from the seat of fracture. The movements, begun gently, should be at first passive. As soon as the cessation of pain allows, active movements are called for. They ought always to be limited. The only reproach that can be brought against the method is that, after articular fractures the pain disappears before consolidation has taken place and the patient wishes to walk or to use his arm too soon.

22. **Painful Displacement of Ribs.**—Depage describes a special pathologic state, which he believes has not been recognized till now, and which he considers to be frequently the only cause of a condition often complained of by women, viz., pains usually in the right, rarely in the left, side. A diagnosis is frequently made of nephroptosis, appendicitis, ovario-salpingitis, etc., and operations appropriate to the diagnosis are performed without relief. The real condition is displacement of the rib. In consequence of the slanting disposition of the ribs, it happens that sometimes the eleventh or the tenth rib presses on the iliac crest and the ribs even ride one over the other, thus causing pain in the iliac region. The pain is dull intermittent, when the patient moves about or walks. On examining these patients there is often found a certain degree of scoliosis, with abnormal disposition of the ribs. Palpation of the flank is not painful. There is no space left between the iliac crest and the border of the ribs. Pressure on the former and on the extremity of the tenth and eleventh ribs is painful. Often the patients suffer if the angles are brought one over the other. Depage can not state the exact cause of the pain, but regards it as analogous to the pain of flat-foot. He considers as the best early treatment, mechanico-therapeutics and carefully selected gymnastics. One year's treatment is necessary for a thorough cure. Corsets are forbidden. In four cases in which suffering was intolerable he performed resection of the anterior extremities of the ribs—the eleventh rib in three cases and both tenth and eleventh in one case. In all cases the cure is perfect. The disappearance of pain can be compared to the relief one feels on taking off a boot when suffering from corns. Depage regards the success of treatment as an evident proof of the reality of the disease.

Medical Press and Circular, London.

. *September 30.*

25 *Dangers of Hyperalimentation of the Tuberculous. Prof. M. Labbe.
26 *Diabetic Régime. S. A. Arany.
27 Impressions of the First International Food Congress. L. M. Douglas.
28 Gangrene of the Skin in Rheumatoid Scarlatina. Prof. Heubner.

25. **Hyperalimentation of the Tuberculous.**—Labbe holds that hyperalimentation is indicated only in comparatively few cases, even among tuberculous subjects who are actually losing flesh. It does not constitute a curative treatment of tuberculosis, and therefore can not be indefinitely prolonged. Instead of the doctrine of systematic, indefinite hyperalimentation, he would suggest periodical, interrupted overfeeding, with a selection of cases. In the intervals these patients can be given a diet which shall be substantial, restorative and sufficient to fulfill the requirements of the organism.

26. **Diabetic Régime.**—Arany points out that the way of living that suits diabetic Brown does not necessarily suit diabetic Smith. He divides patients into two categories: The first of these represents cases in which the sugar is entirely derived from carbohydrates, and this class of cases is usually styled alimentary or mild form of diabetes, or the first stage of the disease; whereas to the second category belong cases in which the production of sugar can not be ascribed to the carbohydrates alone, and such cases are usually termed the grave form of diabetes, or the second stage of the disease. The first class has two varieties, those in which glucose appears in the urine only when sugar is ingested as such, and those in which it appears after the ingestion of starchy food. He discusses the food régime suited for the various conditions, and points out that during the colder seasons of the year carbohydrates and albumin must be re-established, and it will be advisable to add to the diet a fair amount of fat stuff. He never withdraws alcohol from those who are accustomed to it, though he never advises a total abstainer to take it, and it is to be given more liberally in winter than in summer. The patient must be protected from greater loss of heat. As to drugs, he considers the disadvantages of opium and its derivatives too great and regards the salicylates as not only more harmless, but far more effective. Alkalies, especially in the form of mineral waters, are useful. With regard to treatment, he says: "To leave the worries of ordinary life at home and to live only for one's health and pleasure is an improvement in itself, and if we add to this open-air life, with plenty of bodily exercise, we certainly do the patient more good in the course of four weeks than we could do at home for him in four months."

Clinical Journal, London.

September 30.

29 *Exploration of the Inguinal Canal. C. B. Lockwood.
30 Rôle of Gastroenterostomy in Gastric Ulcer and Gastrectasia. E. S. Bishop.
31 *Early Clinical Types of Certain Diseases. W. Trotter.

29. **Exploration of the Inguinal Canal.**—Lockwood advises exploration of the inguinal canal in certain conditions. He points out that on the commencement of a hernial protrusion, a very slight elevation may be observed at the site of the internal abdominal ring, accompanied by a small localized impulse on coughing, often too slight to be felt when the patient stands up. As indications for exploration of the inguinal canal, he mentions a complaint of pain in that region with this minute, and almost imperceptible impulse, a patulous ring, scrotal and inguinal varicocele, congenital hydrocele and ill-descended testes.

31. **Early Clinical Types.**—The diseases discussed by Trotter, with a view to describing early clinical types, are carcinoma of the breast, traumatic compression of the brain, malignant disease of the thyroid, and actinomycosis of the lung.

Australasian Medical Gazette, Sidney.

August 20.

32 *Early Diagnosis of Plague. J. S. Purdy.
33 *Resection of Portion of the Liver. T. Fiaschi.
34 *Axis Traction Forceps vs. Telephone and Motor Car. J. K. Couch
35 Foreign Bodies in the Esophagus. A. M. Cudmore.
36 Surgical Notes. E. H. Burkitt.
37 *Aortic Aneurism Relieved by Calcium Chlorid. T. Ambrose.

32. **Early Diagnosis of Plague.**—Purdy says: "The existence of fever, a swelling in the right groin, with enlargement of a femoral gland or glands, when there is no obvious cause for such enlargement, such as an abrasion or sore lower down the limb, is to my mind a case which should immediately arouse a suspicion as to the possibility of plague. Especially is this suspicion warranted if therewith you have lassitude; frontal headache; vomiting; aching of the limbs; vertigo; drowsiness, with intervals of wakefulness; absence of rigors; a peculiar facial appearance, making the features drawn and haggard, with the pupils dilated, and a general expression of anxiety and fear; anorexia; a rapid rise of temperature to 102 or 103 F., with acceleration of pulse and respiration; a skin dry and burning; tongue with a creamy fur which rapidly dries and becomes brown; intense thirst; extreme prostration; and the presence of a distinct bubo, with infiltration of the tissues, painful to touch—the size of a walnut or larger. If with this you find the epitrochlear glands are not enlarged, I submit that the diagnosis of plague is one within the bounds of reasonable probability."

33. **Resection of Portion of Liver.**—Fiaschi reviews the literature of hepatic surgery, and reports two cases, one of gumma and one of hydatid cyst radically excised. He used Garré's method, with osteoplastic arch according to W. Meyer's method (The Journal, Oct. 6, 1906, p. 1069). Before operation and during the after-treatment, both patients were given hexamethylenamin by the mouth, and in 5-grain doses three times a day, which he considers a great help in all cases of liver operation, as it prevents infection of the biliary ducts.

34. **Axis-Traction Forceps.**—Couch protests against meddlesome midwifery, and urges the practice of abdominal examination, pelvimetry and auscultation, and suggests that during the greater part of a normal labor the physician should go away, lest he be tempted to unnecessary interference, and should rely on the telephone and the motor car to save his time instead of on the high forceps operation.

37. **Calcium Chlorid in Aortic Aneurisms.**—Ambrose reports a case in which, after weeks of treatment with potassium iodid, morphin, etc. the pain, throbbing and insomnia were steadily increasing. Improvement commenced almost immediately on taking calcium chlorid three times a day, and continued so that about two months later all symptoms, save an occasional slight headache, had entirely disappeared. The aneurism was clearly visible under the *x*-ray.

Intercolonial Medical Journal of Australasia, Melbourne.

August.

38 Cystoscopy. J. Smith.
39 Recent Dermatology. H. Lawrence.
40 Two Cases of Paget's Eczema of Nipple Associated with Carcinoma. R. B. Duncan.
41 Immediate Treatment of Infantile Paralysis. W. MacKenzie.
42 Surgical Treatment of Sciatica. J. Murphy.

Annales de Médecine et Chirurgie Infantiles, Paris.

September 15, XII, No. 18, pp. 613-648.

43 *Characteristics of Infections and Intoxications in Infants. (Le nourrisson.) A. B. Marfan.

43. **Characteristics of Infections and Intoxications in Infants.**—Marfan continues his general study of the pathology of childhood, discussing the origin of the principal affections of early infancy. He insists on the importance of infection through the skin while it is still defectively developed, less resistant than later, and with a special predisposition for suppurative inflammation. Disturbances in digestion and nutrition may favor infection of the skin by inducing morbid sweating and sudoral eruptions or by producing a cachexia which throws down the barriers for the defense of the skin.

Presse Médicale, Paris.

September 16, XVI, No. 75, pp. 593-600.

44 Starch Digestion in the Stomach and Intestinal Digestion. (Pouvoir amylolytique du contenu gastrique et digestion intestinale.) L. Meunier.
45 Physiologic Action of Muscles of the Hip. (Gymnastique de la hanche.) P. Desfosses.

September 19, No. 76, pp. 601-608.

46 Pubiotomy versus Symphyseotomy. (Hébotomie ou symphyséotomie?) C. Jeannin.
47 Study of Injected Stained Bacteria. (Action de bactéries colorées.) F. Daels and R. Devloo.

September 23, No. 77, pp. 609-616.

48 *Death After Tapping Ascites. (Mort des ascitiques après la paracentèse.) M. Perrin.
49 Typhoid Fever with "Intermediary" Bacilli. M. Lafforgue.
50 Apparatus for Ethylchlorid Anesthesia. H. Vennin.

48. **Death After Tapping Ascites.**—The *paracentesis* may prove fatal, Perrin states, by inducing a "serous anemia" from transudation into the empty peritoneal cavity; by inducing or aggravating jaundice; by hemorrhage from the abdominal wall or into the digestive tract, or by dilatation of the heart from the influence of the vacuum produced by the falling diaphragm. These mishaps may occur even when the paracentesis is done with extreme care, and the family should be warned of the possibility, and the patient should be kept un-

der constant supervision so that hemorrhage or heart disturbances may receive proper treatment at their first onset. The patient should always be tapped reclining, with a trocar of small caliber, and a tight bandage should be applied around the body, worn for a week at least or longer if the patient gets up. Before tapping, the state of the heart should be investigated and tonics given as needed, and in case of cirrhosis, the diet should be modified and treatment instituted—never being content with half measures. Perrin adds to these remarks a description of some cases of the various complications that may be observed. The "serous anemia" may develop after a single paracentesis; one of his patients, a man of 63, with alcoholic atrophy and cirrhosis of the liver, required tapping three months after the first symptoms of the ascites. The paracentesis was followed by emaciation of the face, drawn features, leaden complexion, dryness of the skin and general weakness—the typical clinical picture of serous anemia, and death ensued in coma in two weeks after the single puncture. In another more chronic case the patient refused to allow tapping, and he succumbed three months later with the same symptoms, although no puncture had been made. Appropriate dieting and treatment for the cirrhosis in time seems to be the only way to ward off the possibility of this serous anemia. In two other cases in Perrin's experience, puncture was followed by severe icterus and hemorrhages in the digestive canal. Hemorrhage from the abdominal wall with no external signs or in the intestinal canal should be borne in mind in case the patient shows much depression; a ligature or systematic compression may arrest this hemorrhage, and in prevention the evacuation should be done very slowly with a tight bandage around the trunk immediately afterward to reduce the effects of the change in the pressure within the abdomen. In three cases the pulse and heart became immediately weak and irregular after the puncture, and two of the patients succumbed to acute dilatation of the heart, while in a third case the collapse was arrested by tight belting and heart stimulants. The ascites recurred later, but preliminary heart tonics prevented disturbance when the patient was tapped. It was the seventeenth tapping this time, and twelve liters of fluid were evacuated without mishap. Dieting, administration of liver extract and the heart tonics tided this patient past the puncture; he is a man of 55, with old chronic cirrhosis of the Laennec type, but in fairly good condition since. As the fluid is evacuated, the diaphragm sinks down, thus forming a vacuum in the chest which entails acute dilatation of the heart *in case it is feeble from any cause*, the typical symptoms liable to prove rapidly fatal unless controlled in time. Tight belting tends to prevent this dropping of the diaphragm with all its consequences.

Semaine Médicale, Paris.

September 23, XXVIII, No. 39, pp. 457-468.

51 *Defective Development of the Uterus. (De l'hypoplasie utérine.) R. de Bovis.

September 30, No. 40, pp. 469-480.

52 *Surgery of Cancer at the Dawn of the Twentieth Century. (Chirurgie du cancer au début du vingtième siècle.) F. Lejars.

51. Defective Development of the Uterus.—De Bovis gives a comprehensive summary of the literature on this subject in various countries, and discusses the possibilities for medical aid. The knowledge of uterine hypoplasia throws light on many general symptoms and explains recurring abortion, rigid cervix, retention of fetal membranes, etc. In case of a tumor in the breast, of dubious nature, the discovery of infantile uterus inclines the scale in favor of a better prognosis. He protests against the too current assumption that because a woman is a virgin all is well in her genital organs. The outlook for treatment depends on the degree of malformation. Pregnancy has generally an excellent effect; by the hypertrophy, dilatation and altered circulation in the genital organs they are trained to a better development. Treatment to be effectual should imitate this process. Periodical temporary dilatation may prove useful; once a month is often enough, but electricity might be combined with it once a week. Possibly scarification of the cervix might aid the therapeutic process, completed by hot sitz baths and prolonged hot douches, with operative fixation of the uterus and correction of displacement as is found to be indicated.

52. Surgery of Cancer at the Dawn of the Twentieth Century.—In this long article Lejars sets down his impressions from the international surgical congress held at Brussels in September. What seems to have impressed him most were the maps showing the number of "cancer houses" and "cancer districts" in certain parts of Germany. They seem to sustain Roswell Park's views *in regard to the infectious character of cancer.* The parasitic theory, *Lejars says, certainly best explains the evolution of cancer and its anomalies* and the results of therapeutics. The recurrences after many years show that the term "cures" should be substituted by the term "non-recurrences." *The operation should remove the cancer and the routes by which it spreads, all in one block; so as not to sow cancer cells around. It is needless to cut out quantities of tissue haphazard, injuring nerves and vessels—the principle is to remove only the cancer and the routes by which it spreads and the entire suspicious zone. The main thing is an early diagnosis, followed by immediate removal of the growth, while still localized and regional.* Lejars adds: "*The road is still very steep and very dark, but we must push on waiting for the day when light will break, and take advantage of every little gleam.*" The *number of "absolute cures" reported by various surgeons proved smaller than anticipated. Czerny, for instance, said that in his 450 operations for cancer of the stomach, only 3 of the patients are still living of those operated on before 1898, and only 7 out of 72 treated by gastrectomy between 1898 and 1903. Uterine cancer, removed by the abdominal route, gives an average of about 18 per cent. of durable non-recurrences, according to the various statistics presented.*

Archiv für klinische Chirurgie, Berlin.

LXXXVII, No. 2, pp. 257-495. Last indexed October 10, p. 1286.

53 Resection and Plastic Operations on Upper Esophagus. Especially for Carcinoma. (Resection und Plastik am Halsabschnitt der Speiseröhre.) v. Hacker.
54 Gleich's Operation and Its Value in Treatment of Flatfoot. (Therapie des Plattfusses.) O. v. Frisch.
55 Anatomy of Hernia of Brain. (Anatomie der Cephalocelen.) H. Salzer.
56 Primary Sarcoma in Empyematous Gall Bladder. G. Parlavecchio.
57 **Postoperative Lung Complications of Nature of Embolism.* E. Ranzi.
58 *Action of Constriction Hyperemia on Animals. (*Wirkung der Bindenstauung im Thierexperiment.*) *P. Frangenheim.*
59 *Acromegaly and Hypophysis. E. Stumme.
60 Treatment of Complications from Injury of Lungs in Simple Fractures of the Ribs. (Behandlung der durch Lungenverletzung bei subcutanen Rippenbrüchen enstandenen Complicationen.) F. König.
61 Stones in the Kidney. (Nierensteine.) O. Zuckerkandl.
62 Treatment of Cervical Spondylitis. H. Lehr.

57. Postoperative Pulmonary Embolism.—Ranzi states that embolic complications in the lungs were observed in 57 out of a total of 6,871 operations in von Eiselsberg's service at Vienna since 1901. In 23 cases the fatal embolism did not become infected; in 20 cases there were infarcts, and in 14 there were embolic-suppurative processes. He classifies this material under various headings and according to the various operations. There were pulmonary *complications in 263 cases*, that is, 3.8 per cent., but of embolic nature in *only* 0.8 per cent. A laparotomy had been done in 24 and herniotomy in 12 of the embolic cases. In the 23 *fatal* embolic cases death occurred in a few minutes from the first symptoms of the embolism in 5 cases, while in 9 several hours elapsed before the fatal termination. In 3 the symptoms of embolism were observed immediately after the operation. In this group operative intervention for removal of the embolus could scarcely be considered, as the patient is too much exhausted from the first operation to stand another severe one, but in the other groups, *after failure of other measures, Trendelenburg's suggestion to remove the embolus by opening the artery might prove useful. In prophylaxis of embolic disturbances, it is well, Ranzi says, to prepare the patient for the operation with some heart tonic and afterward to insist on breathing gymnastics, changing the position of the thorax occasionally, with light massage of the extremities. If these are done systematically it is not necessary to allow the patient to get up early after a* laparotomy, which is dangerous for various reasons, he thinks. On symptoms of embolism, complete repose, heart stimulants and morphin for the lung symptoms may ward off danger, but if all these fail, operative interference is justified. It was tried in one case, as he describes in detail; the patient was a young man of the thymus-lymphatic habit, requiring the Bassini operation for varicocele and gaping inguinal canal. The embolism developed on the second day with sudden, alarming symptoms. Anesthesia was not necessary, as the patient was unconscious and the operation was undertaken in a few minutes after the first symptoms. Two clots were extracted about 5 cm. long and one 10 cm. long from the pulmonary artery. The left branch was then free, but it was not certain whether the right branch was also free; as the wound began to bleed, the operation was hastily concluded. The heart beat freely again at once, although irregularly. The greatest difficulty was experienced in suturing the artery, as the blood at first oozed between the stitches, requiring a second suture: in spite of the stimulants the heart action gradually declined and stopped completely about forty minutes after the first symptoms of embolism. Autopsy revealed that the right branch was in fact still occluded, the clot extending into the smallest ramifications.

58. **Hyperemic Treatment Applied to Wounds on Animals.**—Frangenheim gives illustrations of part of his extensive experiments on animals, the results being decidedly unfavorable to constriction hyperemia as a therapeutic or preventive measure in inflammation. It proved impossible to arrest or prevent inflammation by application of the constricting band. Comparison with control lesions on symmetrical parts showed invariably that the progress of the lesion and inflammation with resulting sequesters was much more serious on the side to which the constricting band had been applied.

59. **Acromegaly and Hypophysis.**—A young woman developed chlorosis, with irregularities in the menses, and soon violent headache became installed with the characteristic signs of acromegaly, diplopia and enlargement of soft parts. Roentgen examination confirmed the assumption of a tumor of the hypophysis, and it was removed by turning back the nose. An ingenious contrivance is illustrated showing how the region was tamponed to allow free respiration while preventing aspiration of foreign matter. The various operations on the hypophysis on record, with the different technics, are reviewed and the pathology and pathogenic importance of the hypophysis discussed. Stumme is convinced that the chlorosis is the primary trouble in such cases, and that it is intimately connected with the functioning of the ovaries. The ovaries suffer from the chlorosis, and this in turn has an injurious action on the hypophysis, altering its secretions, which, in turn, entails the acromegaly. The results of operative treatment in the case reported were satisfactory. To date, six months after the operation, there has been no recurrence of the previously incessant tormenting headache; the soft parts have returned to about normal size, the tendency to growth of hair on cheeks and forearms has subsided and menstruation is regular. The patient complains only of palpitations on slight effort. The thyroid had been unusually large since the first onset of the acromegaly, but the neck measures much less now than before the operation. The thyroid, however, has continued to enlarge and the patient fears goiter.

Beiträge zur Klinik der Tuberkulose, Würzburg.

X, No 3, pp. 225-278. Last indexed October 3, p. 1192.

63 •Morbid Local Tenderness a Sign of Incipient Pulmonary Tuberculosis. (Der krankhafte Druckschmerz—ein Erkennungsmittel der beginnenden Schwindsucht.) K. Francke.
64 Treatment of Tuberculosis with Injections of Eucalyptol. M. Berliner
65 •Newer Viewpoints in Treatment of Pulmonary Tuberculosis. (Neuere Gesichtspunkte bei der Behandlung der Lungentuberkulose.) H. Weber.
66 •Influence of Artificially Induced Pneumothorax on the Tuberculous Lung. (Einfluss des kunstlichen Pneumothorax auf die tuberkulöse Lunge.) F. Graetz.
67 Further Success with Intravenous Treatment of Tuberculous Patients with Cinnamic Acid. (Intravenöse Behandlung Tuberkulöser mit Hetol.) S. Goldschmidt and N. Knobel.

63. **Morbid Local Tenderness a Sign of Incipient Pulmonary Tuberculosis.**—Francke has been calling attention since 1901 to the importance of study of the local tenderness or what he calls "morbid pressure pains," especially for the diagnosis of incipient apical processes. Before any other signs suggest a tuberculous process at the apex, the region will be found sensitive on percussion or there may be spontaneous pain. This is more liable to occur when the process is toward the front and low, in which case the pleura is liable to be spontaneously painful, on account of the rubbing and traction inevitable from the tuberculous process. When located high up posteriorly the parts then do not participate in the respiratory movements so much, and consequently the process may cause no symptoms, except this tenderness on pressure. He ascribes great importance to this "algeoscopy," as he calls the investigation of the pain on pressure. The patient may exclaim at the pain or make a grimace, or there may be merely a contraction in adjoining muscles. In some cases the pressure on the incipient process may induce a cough. He prefers to apply the pressure with the right forefinger or a special percussion hammer. The muscles must be relaxed and it is remarkable, he says, how elastic the wall of the chest is found to be. The most important point for applying pressure is over the anterior layers of the trapezius muscle, which can be easily pushed aside. The pain of a tuberculous process is readily differentiated from that of rheumatism, neuralgia and affections of the bronchi. The pain is the result of involvement of the adjoining pleura, which is richly provided with nerves. In 200 cases of pulmonary tuberculosis he found this pain on pressure in 77.9 per cent. In 126 of 154 incipient cases, this local tenderness helped to differentiate the incipient process, and the course of the affection always confirmed the findings; only one-third of these patients complained of spontaneous pains. A diagram shows the most common localization of the tenderness; he paints the region with iodin to compare it with the findings later.

65. **Lime and Production of Carbon Dioxid in Relation to Treatment of Tuberculosis.**—Weber bases his treatment on the antagonism between arteriosclerosis and pulmonary tuberculosis. The main difference, he says, is that the blood of the tuberculous is thin and contains very little carbon dioxid, while in arteriosclerosis the blood is thick and contains a large proportion. He believes that the lack of carbon dioxid is what gives the tubercle bacilli their opportunity. As the apex of the lungs is drained more readily of blood than other parts of the lung, it is the point where the bacilli are able to colonize with the greatest ease. In heart disease causing venous hyperemia in the lungs there is less liability to pulmonary tuberculosis, while children born with stenosis of the pulmonary artery all succumb to consumption because the constriction of the artery prevents the normal supply to the lungs of blood containing a large proportion of carbon dioxid. The healing of tuberculous processes in the bones under Bier's technic, he ascribes to the action of carbon dioxid. The benefits of sanatorium treatment of tuberculosis are also attributable in part to this gas as the dietetic measures enforced increase its formation. In diabetes a large part of the sugar is not oxidized but eliminated as sugar. The formation of carbon dioxid is thus interfered with and nearly 50 *per cent.* of all diabetics succumb to tuberculosis. Treatment of tuberculosis should aim to increase the appetite and render digestion perfect, thus promoting oxidation. Creosote in minute doses stimulates the digestion and appetite, but the mistaken idea that it acts directly on the tubercle bacilli led to its being used in large doses, which injured the stomach and brought the whole method into disrepute. Janowski urges that every patient with stomach trouble should be examined for an apical process in the lungs. A number of stomach symptoms vanish under successful treatment of a tuberculous process in the lung, showing that they were the results of functional disturbances from irritation of the vasomotor nerves by the tuberculous toxins, causing local ischemia of the gastric mucosa, besides a tendency to chilliness, sweats, flushes and neurasthenic disturbances. Creosote and its derivatives in combination with arsenic often induce a remarkable change in the stomach symptoms. A prominent feature of the healing of a tubercu-

lous process is the calcification which arrests the process. It is aided by therapeutic administration of lime salts, and the formation of carbon dioxid is promoted by supplying substances in the food which are most easily oxidized. The substance which oxidizes most readily is levulose, which even diabetics can transform into carbon dioxid, but it is too expensive for general use and Weber has found that a pulverized extract of malt answers the same purpose. It can be added to coffee, tea, lemonade, etc., or taken with wine and egg. He is convinced that a combination of the malt extract and a lime salt is destined to prove useful in treatment of tuberculosis, and he cites a few typical cases showing the benefit derived from the malt treatment alone. He has had 60 per cent. of his patients cured or materially improved, and is anticipating still better results from the combined malt-lime treatment, which he has only recently instituted.

66. **Influence of Pneumothorax on the Tuberculous Lung.**—Graetz gives the clinical history and autopsy findings in three cases of pulmonary tuberculosis in which pneumothorax had been artificially induced. In every instance the pathologic findings showed unmistakable healing processes in the compressed lung. The local lesion had been arrested and was progressing to complete cure when death occurred. Healing was manifested in the encapsulation of the cheesy foci and organization of pneumonic processes by connective tissue. The hindrance to the circulation of the lymph prevents absorption of the tuberculous toxins. The therapeutic results of compression depend on the completeness of the pneumothorax induced and the force of the compression. Nodular processes seem better adapted to this method of treatment than the pneumonic type. He adds that the perforation of cheesy foci and extensive pleurisy are dangerous complications liable with this method of treatment. In the first case reported the adhesions prevented a successful pneumothorax and the patient succumbed to the progress of the tuberculosis. In the second case, both lungs were involved and the tuberculous lesion in one lung continued to progress after the process in the other lung had been arrested by compression. It was necessarily imperfect owing to adhesions. In none of these cases was there any evidence of penetration of foreign bodies into the lymph tracts, allowing transportation of particles from the affected zone to other regions, but it can not be denied that this possibility is imminent with this therapeutic pneumothorax.

Berliner klinische Wochenschrift.

September 28, XLV, No. 39, pp. 1749-1792.

68 *Protection of Stomach Against Autodigestion, and Antipepsin for Treating Gastric Ulcer. (Schutz des Magens gegen die Selbstverdauung.) M. Katzenstein.
69 *Idiopathic Form of Circumscribed Serous Spinal Meningitis. L. Bruns.
70 *Blood Findings in Exophthalmic Goiter and Thyroidism. (Blutefunde bei Morbus Basedowii und bei Thyreoidismus.) L. Caro.
71 *Ascending Neuritis. G. C. Bolten.
72 *Tabes and Paralysis in Light of Recent Research on Syphilis. F. Lesser.
73 Nitrite Intoxication from Bismuth. (*Nitritvergiftung durch Bismutum subnitricum.*) J. Nowak and C. Gutig.
74 Potassium Iodid in Treatment of Suppuration in Nasal Accessory Cavities. (Jodkalitherapie bei *Eiterung der Nasennebenhöhlen.*) H. Hempel.
75 Acute Dilatation of the Heart. (Zur Frage der acuten Herzerweiterung.) Hornung.
76 Experiences with Moro's Tuberculin Salve Reaction. (Erfahrungen mit der Moro'schen Reaktion.) A. Lejeune.
77 Institutions for Caring for Mothers and Infants. (Versorgungshäuser für Mütter und Säuglinge.) W. Hanauer.
78 Forensic Aspects of Ovulation and Pregnancy. (Ovulation und Schwangerschaft in ihrer *Bedeutung* für die forensische Psychiatrie.) H. Marx.

68. **Protection of Stomach Against *Autodigestion*.**—Katzenstein gives an illustrated description of experiments on dogs, reproducing the natural processes to some extent. A loop of intestine was made to *protrude in* the stomach or a pedunculated flap from the spleen. The foreign body in the stomach in each case was rapidly digested. On the other hand, it was found that a pedunculated flap of stomach tissue could be drawn around into the stomach and sutured to protrude inside without being digested. It is evident that living tissue is digested by the natural gastric juice in the individual's own stomach, unless it is tissue that produces the gastric juice or is normally laved by it, such as the tissue of the stomach and duodenum. This property of resisting autodigestion was noted both with living and dead stomach tissue. He believes that this resisting property is due to the presence of an antiferment, an antipepsin, and that a morbid lack of this antiferment explains the production of gastric ulcer and its lack of tendency to heal. He treats ulcer of the stomach on this basis, supplying the missing antiferment in the form of an antipepsin, and reports excellent results.

69. **Circumscribed Spinal Serous Meningitis.**—Bruns diagnosed at first caries of the cervical vertebræ in a youth of 16, but later ascribed the paralysis and pains to a tumor, compressing the spinal cord. On removal of the arches of the fourth and fifth cervical vertebræ the cerebrospinal fluid gushed in a strong stream, but nothing pathologic could be found except that the dural sac was exceptionally wide at this point. It thus proved to be a typical case of circumscribed spinal serous meningitis; after evacuation all the symptoms gradually retrogressed so that now, twenty months later, the patient is completely cured.

70. **Blood Findings in Exophthalmic Goiter.**—Caro tabulates the findings in 14 typical cases, in 20 others with a suggestion of exophthalmic goiter, in 6 patients with goiter alone, in 1 patient years after recovery from exophthalmic goiter, and in 5 cases in which thyroid treatment was being taken for obesity or myxedema. The pronounced cases of exophthalmic goiter were distinguished by a reduction of the polynuclear leucocytes, as much as 50 per cent., and a corresponding increase in the mononuclear leucocytes with predominance of the small lymphocytes.

71. **Ascending Neuritis.**—Bolten reports five cases and discusses the history of this affection. The prognosis is favorable with perineuritis without loss of the axis cylinder, also in interstitial neuritis, but the outcome is very dubious in parenchymatous neuritis from penetration of infectious germs through a lesion in the skin into the nerve fibers themselves. In such cases the axis cylinder is always more or less degenerated.

72. **Importance of Serum Test for Tabes and Paralysis.**—Lesser states that the serum test for syphilis is providing a valuable guide to treatment and prevention of tuberculosis and paralysis. Recent life insurance statistics show that a third of all syphilitics die ultimately of tuberculosis, paralysis or aneurism of the aorta. The serum test gave positive findings in all the cases of paralysis and in half of the cases of tabes, in Lesser's experience, and he draws the conclusion that syphilitics who do not respond to the serum test years after their infection are not liable to develop paralysis. About half of the syphilitics who seem to be entirely free from manifestations of the infection years later still respond with positive findings to the test. The conclusion seems evident that these persons, although apparently healthy, are in reality candidates for paralysis later. A positive reaction indicates that the syphilitic virus is still active. Those individuals giving positive findings require specific treatment. In nearly every case in his experience, energetic prolonged specific treatment transformed the positive into a negative response to the test, and this negative phase has persisted to date. The number of inunctions or injections required varies with each patient, and should be controlled by examination of the blood. He accomplished this result in some cases with potassium iodid alone, and he is confident that in this way it will prove possible to reduce the number of cases of tabes and paralysis. Once developed, antisyphilitic treatment has comparatively little influence on their course, but still he would institute specific treatment in case of a positive reaction in a tabetic to ward off the danger of paralysis.

Deutsches Archiv für klinische Medizin, Leipsic.

XCIV. Nos. 1-2, pp. 1-238. Last indexed September 19, p. 1041.

79 *Connection between Contracted Kidney and Hypertrophy of Heart from Standpoint of Pathologic Anatomy. (Beziehungen der Schrumpfnieren zur Herzhypertrophie vom pathologisch-anatomischen Standpunkt.) L. Jores.
80 Influence of Hydrochloric Acid on Digestion of Pepsin. (Einfluss der Salzsäure auf die Pepsinverdauung.) A. Müller.
81 *Physiology and Pathology of Secretion of Pancreatic Fistula. K. Glaessner and H. Popper.

82 *Peripheral Action of Active Exercise on Circulatory Disturbances with Fat Heart and Allied Conditions. (Zur Frage der peripheren Wirkungen der aktiven Gymnastik auf Kreislaufstörungen bei Fettherz und verwandten Zuständen; Zugleich en Versuch veränderter Auslegung der Krankengeschichte Oertel's.) K. Hasebroek.
83 *Influence of Different Colored Light on Course of Inflammation. (Einfluss einzelner Lichtarten auf den Verlauf der [illegible]
84 * [illegible] er and Salt. (Pathologie des [illegible] A. Bittorf.
85 Hemophilia. P. Morawitz and J. Lossen.
86 *Chronic Gastrointestinal Dyspepsia and Chronic Dyspeptic Diarrhea. (Chronische Magen-Darmdyspepsie und chronische dyspeptische Diarrhöen.) R. Schütz.
87 Substances in Urine that Induce Mydriasis. (Vorkommen mydriatisch wirkender Substanzen im Harn.) M. Diem.
88 Perpetually Irregular Pulse. H. E. Hering.
89 Electrocardiogram of Irregular Pulse. Id.
90 Embolic Tuberculous Pneumonia Following Massage of Tuberculous Glands in Neck. Aufrecht.

79. **Relations Between Contracted Kidney and Hypertrophy of the Heart.**—Jores has been studying the pathologic anatomy of this question, his conclusions being against the assumption that the degree of hypertrophy is determined by differences in the destruction of kidney tissue. *It* seems much more probable that in the still unknown injurious influence which induces the production of red granular kidney, for instance, there is a strong blood-pressure raising element.

81. **Secretion of Pancreatic Fistula.**—Glaessner examined the secretions from a traumatic fistula into the pancreas in a girl of 17. For nearly three weeks the secretion was collected every hour and studied from several points of view. The findings showed a number of differences from those of a pancreatic fistula in the dog, especially the lack of the lab ferment, the continuous secretion of pancreatic juice, the lack of correspondence between the nature of the food and the nature of the secretion, and the absence of any apparent influence on the production of pancreatic juice by special elements in the food.

82. **Peripheral Action of Active Exercise in Circulatory Disturbances.**—Hasebroek relates experiences and tests which sustain his assumption that the benefits of active gymnastics in cases of fatty heart and allied conditions are due in part to the training of the muscles of the skeleton and vessels, but mainly to the sweeping away of obstacles accumulated at the periphery. The retrogression of the peripheral resistances is due possibly in some measure to reduction in the viscosity of the blood. When therapeutic gymnastic measures produce rapid and striking benefit, especially in fatty heart and allied conditions, it is extremely probable that the disturbances relieved were essentially extracardial.

83. **Influence of Colored Light on Course of Inflammation.**—Jezierski reports experimental research, especially on frogs and mice. The results indicate that the influence of blue light resembles that of diffuse daylight, acting mainly on the leucocytes, less on the red corpuscles and the cells of the epidermis. Red light has less action on the leucocytes, but it induces hyperemia, causing better nourishment of tissue, and by promoting the regeneration of the epidermis, protects the inflamed surface and contributes to its smooth healing free from scar formation.

84. **Pathology of Metabolism of Water and Salt.**—The metabolic findings in seven cases of dropsy are tabulated in detail. They confirm the importance of changes in the vessels as the main cause of edema. Without these changes there may be considerable retention of water or salt or both, without dropsical accumulations. If the changes in the vessels are permanent, chronic edema results. Bittorf's experience speaks against the assumption of primary retention of salt as the sole or even as an important cause of edema. The changes in the vessels and retention of water are far more important factors in the production of edema than retention of salt. Improvement in a kidney affection with edema is first manifested in an increased elimination of salt, followed by increased elimination of water. When this occurs, ingestion of salt may promote the elimination of salt and water by accelerating the osmotic interchanges between the tissues and the blood. His experience further shows the uniformity of the origin of nephritic and cardial edema. In both there are injury of the vessels with local disturbances in the circulation and retention of water from disturbance in the circulation through the kidneys with lesser elimination of water. The various localizations of the edema in each are the result of the different vessels affected.

86. **Chronic Gastrointestinal Dyspepsia.**—Schütz claims that chronic "nervous dyspepsia" and dyspeptic diarrhea are the result always of some disturbances in the secretion, absorption or bactericidal functions of the digestive tract. He has had occasion to treat 143 adults and 12 children for this trouble. Nearly all complained of long chronic diarrhea assumed to be of gastric origin. The diagnosis of "dyspeptic" diarrhea is based on the characteristic history and examination of the stool. Treatment is mainly dietetic, allowing only food which the stomach and intestine are capable of digesting without residue. All articles should be discarded from the diet which examination of the stools shows are imperfectly digested, and any return to food with much residue promptly avenges itself. A change of occupation or scene may prove beneficial in obstinate cases; in the severer forms institutional treatment is advisable as examination of the stools is indispensable for correct advice. He never gives drugs to stop the diarrhea unless he finds that it persists from over-irritable peristalsis after the digestion has proved to be proceeding normally. Repose is a necessary factor; in the severer cases the patients require rest in bed for a time and even in the mild cases the patient should lie down for a few hours every day, preferably after meals. Warmth applied externally and in the form of a little hot water taken before meals is important as an adjuvant. Large amounts of water at a time should be strictly forbidden.

Deutsche medizinische Wochenschrift, Berlin.

September 24, XXXIV, No. 39, pp. 1657-1704.

91 Brain Affections with Fatal Outcome Without Anatomic Findings. (Hirnerkrankungen mit tödlichem Ausgang ohne anatomischen Befund.) H. Hochhaus.
92 *Operative Treatment of Traumatic Paralysis from Simple Compression. (Operative Behandlung der traumatischen subkutanen [illegible] Bardenheuer.
93 *Artificial Au[illegible] Delirium Tremens. (Künstliche [illegible] Delirium Tremens.) G. Aschaffenburg.
94 Cutaneous Tuberculin Reaction in Young Infants. (Die kutane Tuberkulinreaktion im ersten Lebensjahr, *speziell im ersten* Lebenshalbjahr.) F. Siegert.
95 *Value of Sense of Touch in Operating. (Wert des Tastsinnes beim Operieren.) Hopmann.
96 *Physiology of Respiratory Organs. (Physiologie der Atmungsorgane.) G. Liebermeister.
97 Behavior of Vocal Fremitus in Croupous Pneumonia. (Verhalten des Stimmfremitus bei croupöser Pneumonia.) J. Wolter.
98 Technic of Extension Treatment. Schrecker.
99 Origin of Cirrhosis of Liver. (Genese der Lebercirrhose.) H. Ribbert.
100 *Treatment of Convulsions. (Behandlung der Krämpfe.) A. Westphal.

92. **Traumatic Paralysis from Compression.**—Bardenheuer's patient was a roofer, who fell from a roof, crushing the inferior cervical plexus between the clavicle and the seventh cervical vertebra. Bardenheuer's experience in this case, sustained by a survery of the literature, has convinced him that such cases of complete paralysis from a subcutaneous injury require operative intervention if by the second or third week no improvement is observed under medical measures, and if after the tenth or twelfth day the electric irritability for both currents—after a phase of exaggeration—declines to complete extinction, while the muscle loses within a week the power to respond to the faradic current and in the second week becomes more susceptible to the galvanic current with the reaction of degeneration and signs of atrophy. He advocates exposing the nerve in this case and doing a paraneurotomy or suturing the nerve, according to the indications presented.

93. **Auditory Hallucination in Delirium Tremens.**—Aschaffenburg has confirmed Liepmann's discovery that pressure on the closed eyes will produce in delirium tremens a delirium of color perception besides the ordinary Purkinje phenomena. Aschaffenburg has found this a good means to reveal impending delirium tremens before its actual onset. Similar hallucinations were evident in the auditory sphere when the patients were summoned to a supposed city telephone when in fact it was merely a house telephone, with no chance for auditory stimuli. The mere sight of lines on a sheet of paper or mere

contact with the telephone or pressure on the eyeball serve as peripheral stimuli to elicit the hallucinations, confirming the importance of peripheral stimuli in their production, and also the value of such stimuli as a diagnostic measure to detect the inroads of alcoholism before the point of delirium tremens has been reached.

95. **The Finger Superior to Instruments for Exploring.**—Hopmann relates a number of instances to show the superiority of the finger for exploring cavities during operations, revealing sequesters, etc., which escape detection by instrumental exploration. Especially in the cavities of the nose and throat, the trained finger allows detection of lesions and aids in their removal by the natural routes much more effectively than instruments. With the latter an external incision may be required to accomplish the same results as can be obtained with the finger exploring the natural openings.

96. **Physiology of the Respiratory Organs.**—Liebermeister reports research on the mechanism of respiration in case of sudden stenosis of the larynx. His studies were made mostly in postdiphtheric paralysis and in normal conditions. The findings show that interference with breathing causes inflation of the lung if the obstacle to respiration shuts off the air from both lungs. This inflation may develop in the course of a few minutes, and if it continues for a week it does not retrogress after removal of the obstacle, but is liable to entail permanent emphysema. Examination of the lower outline of the lung is thus able to afford instructive information, as it indicates the severity of the obstruction and its persistence in spite of the measures undertaken to relieve it. His experience teaches that delay before relieving the stenosis—by intubation at least—is liable to entail permanent emphysema, which can be avoided sometimes by prompt intervention. In conclusion, he gives the details of the twelve cases studied.

100. **Treatment of Convulsions.**—Westphal commends chloral for arresting an epileptic seizure. It can be administered internally in doses of 2 or 3 gm. (30 or 45 grains), or twice this amount can be given in an enema, preferably in combination with morphin. If the seizure recurs on awakening from the following sleep, the drug should be given again. In hysteria he urges that it must be borne in mind that it is always the psychic suggestive influence of the physician which has a curative action, regardless of the measures employed. The most important factor in treatment of convulsions is differentiation of their cause.

Fortschritte der Medizin, Leipsic.

September 10, XXVI, No. 25, pp. 785-816.

101 Air Baths in Treatment of Consumption. (Indikationen, Technik und Nutzen der Luftbäder in der Phthiseotherapie.) G. Schröder.

September 20, No. 26, pp. 817-848.

102 Case of Juvenile Paralysis from Inherited Syphilis. Senkpiel.

Münchener medizinische Wochenschrift.

September 22, LV, No. 38, pp. 1961-2024.

103 *Old Age from Forensic Standpoint. (Das Greisenalter in forensischer Beziehung.) G. Aschaffenburg.
104 *Nervousness in Children in Relation to Their Diet. (Nervosität und Ernährung im Kindesalter.) F. Siegert.
105 *Primary Intestinal Tuberculosis in Adults. (Primäre Darmtuberkulose bei Erwachsenen.) B. Fischer.
106 *Healing Over of Granulating Surfaces Under "Scharlach R" Salve. C. Krajca.
107 The Dread of Operations on the Tonsils. (Die Furcht vor Mandeloperationen.) Hopmann.
108 Treatment of Diphtheria at Cologne, 1900-8. Berlin.
109 *Meningococcus Sepsis. G. Liebermeister.
110 *Recurrences of Croupous Pneumonia. (Rezidive bei kruppöser Pneumonia.) J. Bungart.
111 Disturbances in Conduction of Impulses in the Heart. (Reizleitungssörungen des Herzens.) E. Mosbacher.
112 *Congenital Syphilis and Progressive Paralysis. C. Müller.
113 *Dangers of Pyroligneous Acid. (Gefahren der Verwendung
von om the ter Essigessenz.) L. Bleibtreu.
[illegible] rracks. (Shedbarackensystem mit Boxen.)
in each case was rapid.
found that a peduncula of Tumors as Basis for Operative Meas-
drawn around into the stoma istologischen Geschwulstdiagnose als
without being digested. It cher Eingriffe.) T. Rovsing.
digested by the natural gastric astric Ulcer. (Atropinbehandlung
stomach, unless it is tissu that v. Tabora.
is normally laved by it, such as th mic Index in Tuberculosis. K.
and Pneumonia Infection.
monieinfektion.) L. Heim.

103. **Old Age from Forensic Standpoint.**—Aschaffenburg analyzes recent criminal records for Germany involving persons of 70 and over, and comments on the small percentage of deeds of violence and large proportion of verbal injuries and the still larger percentage of deeds of immoral nature. It is his belief that in this latter group the crimes are the results of organic changes in the brain. In one typical case, which he cites, insanity developed during the four-year penitentiary sentence, and the meninges were found adherent to the brain, with the cortex shriveled. In 10 out of 12 of the cases, senile dementia continued a rapid course after the sentence. The frequency of serious mental affections in the aged should be impressed on legal authorities to prevent penalties being imposed when the perpetrator of the deed is a sick man rather than a criminal. It must also be borne in mind that the encroaching dementia shuts off the inhibiting influences which otherwise would prevent the crime, while it may induce a morbid stimulation of the sexual impulses.

104. **Nervousness in Children in Relation to Their Food.**—The nervousness to which Siegert refers occurs in children in well-to-do families kept on what is supposed to be an extra-nourishing diet. When milk is given too exclusively, without vegetables, the child is flabby and anemic, with no appetite, but obstinate constipation. When eggs and milk form the main diet, there is often recurring catarrh of the large intestine, while children who eat too much meat display a tendency to skin affections with great elimination of urates, and vulvitis. When milk, eggs and meat form almost the sole diet, the child looks sallow and miserable, with a tendency to itching eczema and recurring folliculitis, and restless sleep. In every case without exception the child suffers when there is lack of carbohydrates, alkali and cellulose in the diet, with predominance of albumin and fat, and when the total amount of food is inadequate. He says that he has seen about 60 examples of this "overfeeding nervousness," and relates a few cases. The children are restless day and night, tire easily, and suffer from frequent infections and obstinate constipation, all of which can be banished merely by regulating the diet, restricting the albumin and fat, while ordering vegetables, salads and fruit. He has never failed to discover this defective diet with this "dystrophic nervousness." In some cases high medical authorities had recommended the milk, egg, oatmeal and sugar diet, but without providing for any supply of salt. The recent announcements in regard to the advantages of an exclusive milk diet without salt, for reduction of obesity, confirm again the reasons for loss of appetite in children overfed with milk. He regards eggs as superfluous for children, except as used in preparation of puddings, etc. Vegetable soups, well salted, are important in the diet, with fruit for dessert, cooked for supper. This dystrophic nervousness is never encountered in the hospitals, but in private practice it offers a wide field for gratifying effort.

105. **Primary Intestinal Tuberculosis in Adults.**—Fischer reports three cases in which the autopsy findings revealed primary tuberculosis in the intestines in adults. The first patient was a man of 63, who succumbed to sepsis from injury of a finger. There was nothing to suggest tuberculosis until some lesions were discovered in the intestines indicating a recent primary tuberculous process. In the two other cases there was evidently an old primary intestinal tuberculous affection which finally led to dissemination by the lymphatics with acute and fatal pulmonary tuberculosis as the result. The cases emphasize, he says, the possibility that a pulmonary tuberculous process of air-borne origin may be aggravated and the fatal termination hastened by secondary influences from a pre-existing or coexisting intestinal tuberculous affection. Or it may happen that a tuberculous process may develop in the lungs secondary to the intestinal lesions, entirely independently of a pre-existing lesion in the lungs, which may remain almost latent. It is possible, also, he adds, that tubercle bacilli swallowed from a pulmonary process may find their way back to the lungs through the digestive tract and induce serious lesions outside of the primary pulmonary focus. The importance of warning patients not to swallow their sputum is confirmed anew by these considerations.

106. **Scarlet Red Salve to Promote Healing of Granulating Surfaces.**—THE JOURNAL. November 10, page 1566, mentioned Fischer's announcements in regard to the remarkable proliferation of epithelium under the influence of the dye "Scharlach R." mixed with olive oil. He obtained with it an atypical proliferation which he thought might throw light on the origin of cancer. Schmieden and Kaehler have been applying the "Scharlach R" in the form of an 8 per cent. salve to promote the healing of granulating surfaces, and Krajca here reports favorable results from this treatment of large defects. He applies the salve on mull for twenty-four hours. alternately with a boric acid salve. The results were good when the salve was applied to promote the healing of Thiersch flaps. He gives an illustration of an extensive defect on the foot, including the heel, which healed rapidly under the red salve. In one case the cavity left from a radical mastoid operation healed completely in two weeks. He makes a point of touching with silver nitrate any granulations which seem to be proliferating too much. He urges others to try this scarlet-red salve method. as it promises. he says, to be of practical importance for the widest medical circles.

109. **Meningococcus Sepsis.**—Liebermeister has been able to find in the literature only one other case like the one he reports. in which meningococci were cultivated from the blood while yet there did not seem to be any signs of meningitis. The patient in his case presented all the general symptoms which usually accompany meningitis. and was ill for two or three months with hectic. irregular fever. pains in the joints. slight stupor at times. an exanthem and congestion in the lungs—but the spinal fluid was clear and sterile, and there were no symptoms of actual meningitis. It is possible, he adds. that such cases of meningococcus sepsis without meningitis are more numerous than hitherto supposed, and have been accepted as "influenza" or even as "articular rheumatism."

110. **Relapses of Croupous Pneumonia.**—Bungart's three patients were convalescing after croupous pneumonia. when suddenly symptoms of a renewed onset of the disease were observed. and they passed through what in every respect seemed to be a repetition of their first attack. The shortest interval after defervescence before the relapse varied from three to twenty-six days in the few such cases on record. The site of the primary lesion was also the seat of the relapse or recurrence: it proved relatively mild in the cases on record.

112. **Congenital Syphilis and Progressive Paralysis.**—Müller relates three cases of progressive paralysis developing in persons whose history showed the probability of inherited syphilis. The patients were between 42 and 53 years old. The interval of 42 years in the first case between the infection in the uterus and the outbreak of the paralysis is the longest interval yet recorded. In another case the patient developed symptoms of mild tabes at 18, which gradually improved, but after thirty-five years progressive paralysis became evident. to which he succumbed in a year.

113. **Dangers of "Wood Vinegar."**—Bleibtreu has encountered three fatal cases of poisoning from pyroligneous acid taken inadvertently. and has found 132 fatal cases on record. In some. the "wood vinegar" had been taken with suicidal intent.

Zentralblatt für Gynäkologie, Leipsic.

September 19, XXXII, No. 38, pp. 1233-1264.

119 *Allowing Patients to Get Up Early After Laparotomies. (Fruhaufstehen der Laparotomierten.) F. Cohn.
120 *An Inguinal Prolapse Operation. (Exohysteropexie inguinalis.) H. Freund.
121 Methods for Disinfection. (Einige neuere Desinfektionsmethoden.) L. Heusner.
122 *Protection of the Perineum. (Dammschutz.) M. Samuel.

September 26, No. 39, pp. 1265-1296.

123 *Case of Air Embolism with Placenta Prævia. (Paradoxe Embolie.) P. Esch.
124 An Indication for Suprasymphyseal Cesarean Section. (Indikation für den suprasymphysären Kaiserschnitt.) W. T. Wiemer.
125 *Intraperitoneal Shortening of Round Ligaments. (Neue Methode der intraperitonealen Ligamentverkürzung.) W. Latzko.
126 Models of Ten Cross Sections of the Female Pelvis for Topographical Representation of Hemorrhage. Inflammation and Neoplasms. (Modelle von Zehn Durchschnitten Weiblicher Becken.) W. A. Freund and v. Rosthorn.

119. **Allowing Patients to Get Up Early After Laparotomies.**—Cohn allowed 100 patients to get up in the course of the first week after laparotomy, 13 on the first day, 16 on the second day, 21 on the third, 30 on the fourth, 10 on the fifth, 8 on the sixth and 2 on the seventh day, and has been much pleased with the results. Thrombosis occurred in 3 cases, but soon subsided, and the preceding condition was evidently responsible for it. He thinks it necessary to be cautious in allowing patients to get up very early when they had unduly high temperature or disturbances in circulation in the legs or pelvis, but under other conditions he is confident that it is an important progress in the treatment after laparotomies. The moral effect on the patient has a favorable influence on convalescence.

120. **An Inguinal Prolapse Operation.**—This operation is designed for cases in which there is prolapse of vagina and uterus with a large inguinal hernia. The inguinal opening is enlarged, the contents reduced and the uterus is seized through the opening and fastened to the outer edge of the inguinal ring. The principle is similar to that of Kocher's median exohysteropexy.

122. **Protection of the Perineum.**—Samuel has the puerpera flex the thighs, her hands on her breast to exclude straining, while she breathes rapidly and deep. This relieves the perineum from strain to some extent, and the accoucheur's right hand presses on the head from behind the perineum, while the fingers of the other hand can be worked under the chin. The head is worked along by the right hand. The patient lies on her back, and it is impossible for her to strain unless mistaken kindness gives her some support for her hands The article is illustrated.

123. **Air Embolism with Placenta Prævia.**—Esch remarks that in the eight cases of air embolism with placenta prævia on record, including a case personally observed, which he describes in detail, the air embolism occurred during or immediately after version. He could find no other case in the literature with any other method of treatment of placenta prævia. The version was done with the patient in the dorsal decubitus; in five cases the placenta was partially and in his case totally detached. In prophylaxis the aim should be to open the lumen of the vessels as little as possible. The danger is less when an instrument is used to bore through the membranes, instead of the finger. The breathing during version should be quiet and regular to avoid fluctuations in the abdominal pressure. If the pelvis is raised a little, the air is less liable to be aspirated into the uterus. It is wise also to refrain from drawing the legs up toward the abdomen. as this relaxes the wall and the intestines may slide down against the diaphragm, which is liable to induce negative intraabdominal pressure. It is remarkable, he adds, that air embolism has never been observed with the use of the hystereurynter, which has the further advantage that it does not require general anesthesia.

125. **Intraperitoneal Shortening of Round Ligaments.**—Latzko's technic is readily seen from the four illustrations. The round ligaments are taken up in a loop which is sutured to the uterus along the median line. He has applied this technic in 100 cases of retroflexion, with faultless functional results in every instance, even with subsequent pregnancies.

Gazzetta degli Ospedali e delle Cliniche, Milan.

September 20, XXIX, No. 113, pp. 1193-1202..

127 Pathogenesis of Orthostatic Albuminuria. G. A. Pari.
128 *Glycogen in Sputum and Its Diagnostic Significance. (Glicogeno negli espettorati.) P. Pozzilli.
129 *Treatment of Intolerance of Quinin. (Terapeutica della intolleranza da chinino.) G. Nogara.

128. **Differential Importance of Glycogen in Sputum.**—Pozzilli's experience confirms the assertions of Moscati and others in regard to the unusually large proportion of glycogen in tuberculous sputum. It increases to form 2 or 3 per cent. of the sputum in the advanced stages of the disease. and this loss of glycogen in the sputum must be one factor in the debility of consumptives. It is not demonstrable in the expectoration of simple bronchial catarrh. He tabulates the findings in 25 cases of various affections of the air passages. In

the advanced stage of pulmonary tuberculosis glycogen formed 3.75 per cent. of the sputum in one case, and was never below 2.5 per cent., while it ranged from 0.15 to 0.6 in other stages of pulmonary tuberculosis. None was found in chronic or acute simple bronchitis, and in pneumonia it ranged merely between 0.05 and 0.06 per cent. The highest proportion detected in any non-tuberculous affection—0.25 per cent.—was in a case of putrid bronchitis in a man of 50. The proportion of glycogen may thus prove a valuable aid for differentiation of tuberculosis and for the prognosis. These findings also throw light on the peculiar susceptibility of diabetics to tuberculosis. The glycogen can be demonstrated by the iodin test or by Pflüger's technic. For the former the sputum is rendered slightly alkaline with sodium carbonate, and then heated for an hour to allow the glycogen to dissolve out into the water. The fluid is then filtered and boiled down in the water bath. An iodo-iodid solution (0.25 part of iodin; 0.5 part of potassium iodid and 100 parts water) is poured on the filtrate in a test-tube held very slanting, the iodid solution is allowed to flow down the sides of the tube, but not allowing the two fluids to mix. A mahogany ring forms at the junction of the two fluids in case of the presence of glycogen, while nothing of the kind occurs in its absence. This test reveals even very small proportions of glycogen. The Pflüger technic is somewhat more complicated.

129. **Treatment of Intolerance of Quinin.**—Nogara reports a case of threatening acute malaria in which the necessary quinin caused convulsions with fever whenever it was taken. After ineffectual trials of various preparations of quinin, with the same disastrous results, he decided to place the patient under the influence of morphin plus atropin. Under the influence of these drugs he tranquilly injected up to 15 grains of quinin without further disturbances, which promptly arrested the threatening symptoms.

Policlinico, Rome.

September 20, XV, Practical Section, No. 38, pp. 1189-1220.

130 *Percussion of Changes in Diameter of the Heart and Large Vessels in Various Febrile Affections. (Nuovo metodo di percussione.) N. Trulli.

September 27, No. 39, pp. 1222-1252.

131 *Liver Cough. (Sulla tosse epatica.) E. Jona.
132 *Medical Treatment of Tuberculous Peritonitis. G. Morano.

130. **Percussion of the Heart Region.**—Trulli expatiates on the important findings possible with the method of percussion taught by the school of medical semeiotics at Rome. It is based on nine points: *a*, the right limit of cardiac dulness; *b*, the right margin of the heart; *c*, the upper limit of relative liver dulness; *d*, the heart-liver angle; *e*, left limit of the cardiac dulness; *f*, the left upper margin of the heart; *g*, the angle between the heart and the large vessels; *h*, the left lateral margin of the heart, and, *i*, the lowest point of the heart on the left. By determining these points two triangles are obtained. The base of the larger extends from the heart-liver angle along the right ventricle to the apex; the upper side of this triangle is formed by the left ventricle, the line extending from the apex to the cardiovascular angle. Another line forms the third side of the triangle, extending from the cardiovascular angle to the cardio-liver angle, and forms at the same time the base of the second triangle and the outline for the base of the heart. The other side of the second triangle extends from the heart-liver angle upward; the third side is formed by the width across the large vessels and heart. The length of these various lines gives an instructive picture of conditions in the heart and large vessels, as they all form a functional whole, and dilatation of one part presupposes changes in the other parts. Trulli gives a few examples of measurements taken on these principles which afford a base for comparative study of various affections of the heart and large vessels. In a case of pneumonia, for instance, he found line 1 to be 7 cm. long; line 2, 11 cm.; line 4, 17.5 cm.; line 5, 13 cm., these measurements gradually growing less as convalescence progressed. In a fatal case the measurements were: 7.5; 11; 14, 11, the third day, and the seventh day, just before death, they were: 8.5; 12.5; 16.5; 12.5.

131. **Liver Cough.**—Jona has encountered two cases of enlarged liver, accompanied by aortic insufficiency, but with no signs of any affection of the respiratory organs. In both cases palpation of the liver caused a severe, dry cough, or, when the pressure was slight or very brief, the musculature of the abdominal wall contracted and the respiration was arrested for a moment with congestion of the veins of the neck, but without any actual cough. It is evidently a reflex phenomenon.

132. **Medical Treatment of Tuberculous Peritonitis.**—Morano's patient was a girl of nineteen with signs of tuberculous peritonitis, swollen glands in the neck and inguinal region and a fistula left from an abscess in the breast. He injected a solution of iodin and iodid, according to Durante's technic, adding a little guaiacol. Improvement soon became manifest, and after forty-seven daily injections the patient was cured. The patient has been in the best of health during the five years since, and Morano commends the iodo-iodid solution as at least worthy of a trial in case operative measures are contraindicated.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

LEHMANN'S MEDIZINISCHE HANDATLANTEN. BAND XVII/I. Atlas und Grundriss der gerichtl' [illegible] Benutzung von E. v. Hofmann's Atlas der [illegible] Herausgegeben von Dr. Georg Puppe, Professor der gerichtlichen Medizin in Königsberg i. P. Mit 70 vielfarbigen Tafeln und 204 schwarzen Abbildungen. Parts I and II. Price, $5.00 per set. München: J. F. Lehmann's Verlag, 1908.

TABER'S POCKET ENCYCLOPEDIC MEDICAL DICTIONARY. Edited by Clarence W. Taber, Author of "Taber's Medical Dictionary for Nurses," etc. Associate Editor, Nicholas Senn, M.D., Ph.D., LL.D., C.M., Professor of Surgery, University of Chicago. Third Edition. Flexible Leather. Pp. 418. Price, $1.50. Chicago: Laird & Lee.

KAMPEN MOD TAERING. Et prisbelonnet skrift af S. Adolphus Kropf, M.D., New York, Professor i phthisiotherapi (taeringsbehandling) ved New York Postgraduate Medical School and Hospital. Translated by A. C. Amundson, M.D., Cambridge, Wis. Paper. Pp. 96. Madison: Amerika Publishing Co., 1908.

THE HARD PALATE IN NORMAL AND FEEBLE-MINDED INDIVIDUALS. By Walter Channing, M.D., and Clark Wissler, Ph.D. Vol. I, Part V, of the anthropological papers of the American Museum of Natural History. Paper. Pp. 349, with illustrations. New York: Published by Order of Trustees. August, 1908.

TUBERKULOSE-ARBEITEN Aus Dem KAISERLICHEN GESUNDHEITSAMTE. 8 Heft. Deutsche Heilstätten für Lungenkranke. Geschichtliche und statistische Mitteilungen. IV. Mit 8 Tafeln. Berichterstatter: Dr. Hamel, unter Mitwirkung von Dr. Friedr. Peters. Berlin: Verlag von Julius Springer, 1908.

DISEASES OF THE NOSE AND THROAT. By Cornelius Godfrey Coakley, A.M., M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City. Fourth Edition. Cloth. Pp. 604, with illustrations. Price, $2.75. Philadelphia: Lea & Febiger, 1908.

THE BONE-MARROW. By W. E. Carnegie Dickson, M.D., B.Sc., Edin., F.R.C.P., Edin., Lecturer on Pathological Bacteriology in University of Edinburgh. Cloth. Pp. 160, with illustrations. Price, $12.00. New York: Longmans, Greene & Co., 1908.

DISEASES OF THE NERVOUS SYSTEM. By Alfred Gordon, A.M., M.D., Associate in Nervous and [illegible] Diseases, Jefferson Medical College. Cloth. Pp. 487, with [illegible] $2.50. Philadelphia: P. Blakiston's Son & Co., 1908.

EMERGENCY SURGERY. By John W. Sluss, A.M., M.D., Professor of Anatomy, Indiana University School of Medicine. Flexible Leather. Pp. 692, with illustrations. Price, $3.50. Philadelphia: P. Blakiston's Son & Co., 1908.

FIRST ANNUAL REPORT OF THE TROY TUBERCULOSIS CLASS, Maintained by the Society for the Home Treatment of Consumption, Troy, N. Y., 1908. Paper. Pp. 36, with illustrations. Albany, N. Y.: Brandow Printing Co.

THE SUBSTANCE OF FAITH ALLIED WITH SCIENCE. By Sir Oliver Lodge, Principal of the University of Birmingham. Cloth. Pp. 144. Price, $1.00. New York: Harper & Brothers.

MILITARY HYGIENE. By R. H. Firth, Lieut.-Colonel Royal Army Medical Corps. Cloth. Pp. 299. Price, $1.40. Philadelphia: P. Blakiston's Son & Co., 1908.

PELLAGRA, a Précis. By Passed Assistant Surgeon C. H. Lavinder. Paper. Pp. 22. Washington: Government Printing Office, 1908.

ELEVENTH ANNUAL REPORT, ST. JOHN'S GENERAL HOSPITAL, of North Side, Pittsburg, Pa., for the year 1907. Paper. Pp. 34.

TWENTY-FIFTH ANNUAL REPORT OF THE MEDICO-CHIRURGICAL HOSPITAL OF PHILADELPHIA. 1907. Paper. Pp. 53.

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Original Articles

TECHNIC OF ABDOMINAL HYSTERECTOMY.

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New methods for the removal of the uterus in whole or in part by the abdominal route have become so numerous that it would seem impossible to present anything that is new. The recent modifications in technic have been, however, for the most part, designed to shorten the time of operation at the expense of exactness, in the hope of thereby lessening shock. Surgeons still seem to believe that the duration of an operation can be measured in minutes and hours. The condition of the patient at the conclusion of an operation is the only index as to whether the operation has been a short or a long one. Ten minutes is a long time for an operation if the patient is shocked; two hours is a short time if the patient wakes up promptly with everything in perfect condition.

It is a great fallacy to believe that time is the only or even the chief element in the production of shock. It is the degree of injury to nervous tissue and loss of blood which are the primary elements, and a rough operator will shock a patient more in a short time than a gentle one will in a much longer time.

Those who advocate a technic that has for its chief end the abbreviation of the time of the operation and who purchase this speed by mass ligatures and crushing forceps seem to overlook the fact that a crushed stump of a ligament wound up in a mass of peritoneum and all held together by a tightly drawn ligature may continue its shocking influence long after the surgeon has gone home. For him the time of operation has been shortened it is true, but for the patient it has been indefinitely prolonged.

With these preliminary points in mind I do not hesitate to present a technic that has grown in my hands in the course of years which aims at anatomic exactness rather than at speed. I have aimed to treat the pelvic stumps with the same consideration that is given the stump of an amputated limb. The points to be observed in both instances are the same: 1. Remove what is diseased. 2. Tie that which bleeds and nothing more. 3. Arrange the remaining parts so as to preserve the best possible function. 4. Cover the whole with the natural covering of the parts.

TECHNIC OF THE OPERATION.

The technic is as follows: The incision is made in the median line and the uterus or tumor delivered, if possible. The broad ligament is then grasped on either the mesial or lateral side of the ovary, depending on whether this organ is to be removed or not. The fingers of the left hand are placed behind the ligament (Fig. 1) and the blade of the peritoneal scissors[1] is passed below the anterior layer of the peritoneum and above the vessels. The peritoneum is cut to the median line or entirely across to the opposite side as desired. The peritoneum is pushed gently back with gauze or with the tip of the scissors. The ovarian vessels are then located and ligated by passing eye first a needle threaded with No. 1 catgut. The artery is isolated and tied separately, or the ovarian veins may be included in the same ligature with the artery, since they lie close together and are both small (Fig. 2). In case of varicosities of the broad ligament, however, the veins should have a separate ligature. The uterine veins should next be tied. They lie above the uterine arteries and may conveniently be tied first. The point of ligation of the uterine artery varies with the conditions to be met. If the cervix is to remain I prefer to tie it close to the uterus, but if the cervix is to be removed, certainly in operating for cancer, I prefer to tie it lateral to the point of bifurcation. It is necessary in this instance to expose the ureter and tie lateral to it. The number of veins requiring separate ligation varies, usually not more than two separate ligations need be made on either side, but in large vascular fibroids three or more may be applied with advantage. Many of the cuts in standard textbooks show the arteries alone ligated. The veins, too, require ligation quite as much as the arteries.

After the ligatures have all been placed the broad ligament is cut down to, but not through, the peritoneum. The fibrous tissue with the vessels now retract and the posterior peritoneal layer may be cut through, some distance from the plane of severance of the fibers, forming in this way a peritoneal flap which is to be used later to cover the raw surfaces (Figs. 3 and 6). If the cervix is allowed to remain it is cut wedge shaped (Fig. 3). The cut surfaces so made are then united, after treating the canal as one sees fit, with a figure-of-eight suture drawn tight enough to hold the surface in apposition (Fig. 4). These sutures it should be noted do not penetrate the peritoneum. The depth of the sutures may depend on the disposition of the stump to ooze. When the suture is tied the cervical canal is effectually closed off above (Fig. 5). The peritoneum is now united over the raw edges of the broad ligament and the stump of the cervix (Fig. 5). A Lembert suture or a matress, using No. 0 plain catgut is best. This suture penetrates the peritoneum and nothing else and is drawn just tight enough to bring the surfaces gently together.

When the cervix is removed the vault of the vagina is caught with forceps as it is being cut in order to prevent retraction. The stumps of the broad ligaments are grasped and are included in the first several sutures that close the vault of the vagina. Figure 6 makes this plain without further comment. The purpose of this maneuver is to prevent the sagging of the vagina. In extensive operations for cancer this procedure is not feasible, for too much of the broad ligament and vagina are removed to permit approximation.

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[1] The scissors used in this operation are made by grinding off 3 mm. of the upper blade of the Greg Smith's peritoneal scissors and rounding off the lower blade to a probe point. This rounded point can be easily thrust through the peritoneum and it then follows the space between the peritoneum and the blood vessels without injuring either (Fig. 1).

After the broad ligaments are fastened, as above indicated, a gauze drain is passed into the vagina (Fig. 7) or the entire vagina may be closed without drainage. In either event the operator may, if he wishes, place several subperitoneal sutures; this appears desirable sometimes to prevent oozing if there is much loose tissue. I usually prefer to omit it.

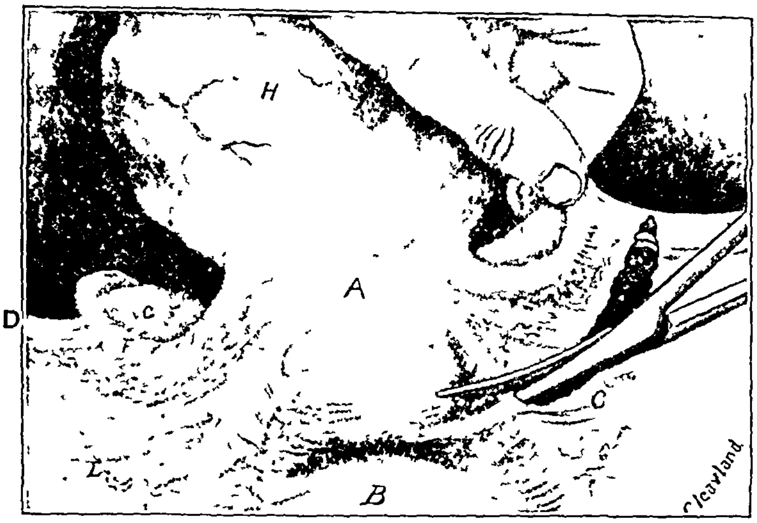

Fig 1.—Cutting the anterior peritoneal layer of the broad ligament; the blood vessels are not cut with this A, uterine; B, bladder; C, anterior layer of broad ligament; D, ovarian vessels; E, uterine vessels; F, Fallopian tube; G, ovary; H tumor.

After the gauze drain has been put in place the peritoneum is closed over it (Fig. 8). This closes off the peritoneal cavity from the site of operation and precludes the possibility of omental or intestinal adhesions to the stump left from the amputation.

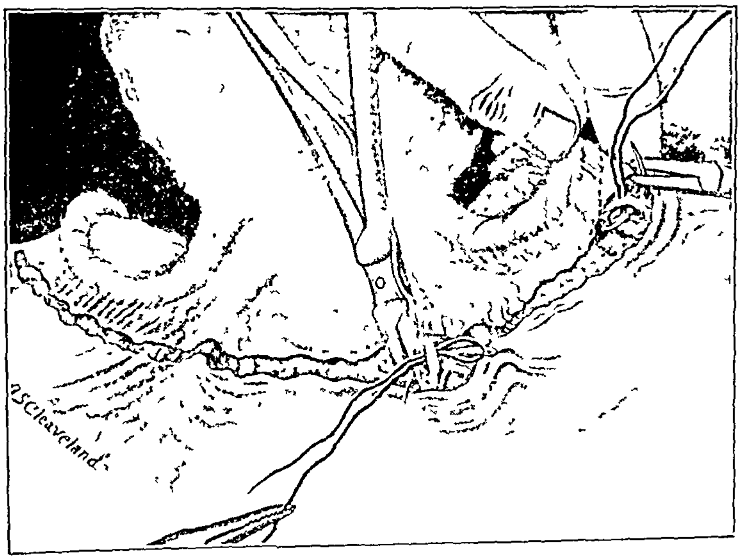

Fig. 2—Ligating the ovarian and uterine vessels Each vessel, artery or vein is tied off separately. The peritoneum has been pushed back to expose the vessels before ligating

I first used this peritoneal closure with independent drainage below, in cases of hysterectomy for cancer in which injury to the bladder actually occurred or was feared.

By this means in a few hours the general abdominal cavity is shut off from the bladder region, and, should that organ leak from faulty suture or from traumatic necrosis during the operation, the general abdominal cavity is protected from the possibility of urinary infection.

Dudley illustrates a similar procedure but nowhere mentions it in his text, so that I am not certain whether the point was intended. At any rate the procedure is worthy of repetition.

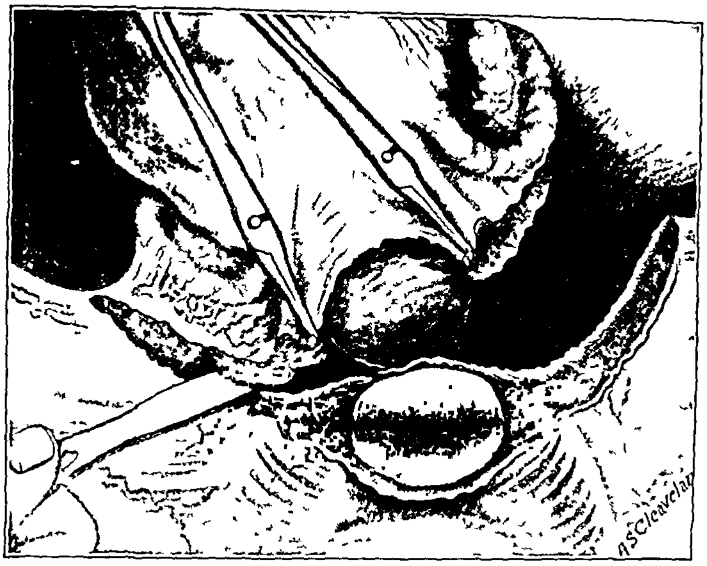

Fig. 3—After all the vessels are tied off the uterus and the *posterior* layer of the peritoneum are cut across.

ADVANTAGES OF THE OPERATION.

An amputation of the uterus done in this manner follows the general rules ordinarily accepted for all other amputations.[2] Its merit consists in the fact that no clamps are used, hence there is no crushing. Tissue not vascular is not subjected to ligation, therefore there is no tissue to necrose and no nerves are compressed and no raw surfaces are left exposed. The peritoneum is included only in delicate coaptation sutures which hold the layers together without causing pressure, consequently there is a minimum amount of pain.

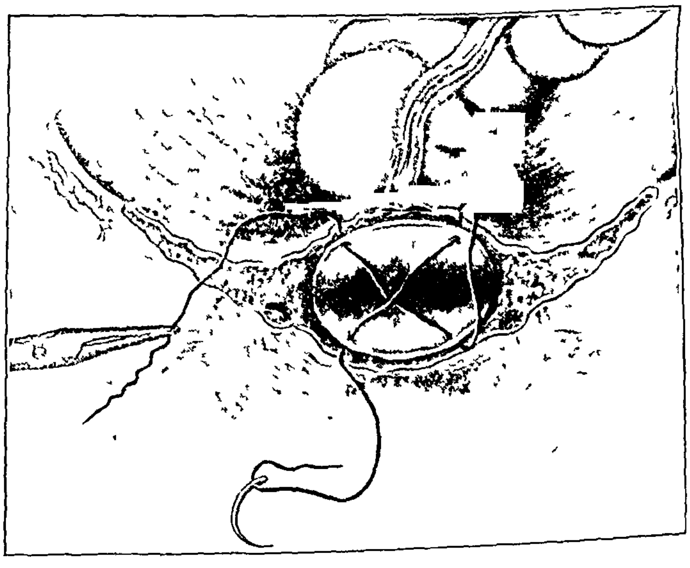

Fig 4—Suture placed to close the stump of the cervix

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[2] A similar technic is used in salpingo oophorectomy Peritoneal flaps are made and the vessels are ligated separately and the peritoneum closed over the stumps In ovarian tumors too, the pedicle is treated in like manner. A cuff of peritoneum is made as in appendicectomy, the vessels ligated and the cuff united over the stump of the vessels with fine sutures

The objections to this operation are that it is time consuming, that ligatures on the isolated vessels are apt to slip, that such a technic can not be used in all cases, and, finally, that the operator must be an expert anatomist. In my hands the operation requires from forty-five minutes to an hour and a quarter (with twenty-five minutes as a minimum time). I have not seen shock worthy of note follow in any instance.

Whether ligatures are apt to slip or not depends on how they are put on. Ligatures are more apt to slip when tissues of varying contractility are included in a single ligature because the more elastic tissue tends to withdraw itself from the ligature. The cause of a ligature slipping is the faulty application or the use of unsuitable material.

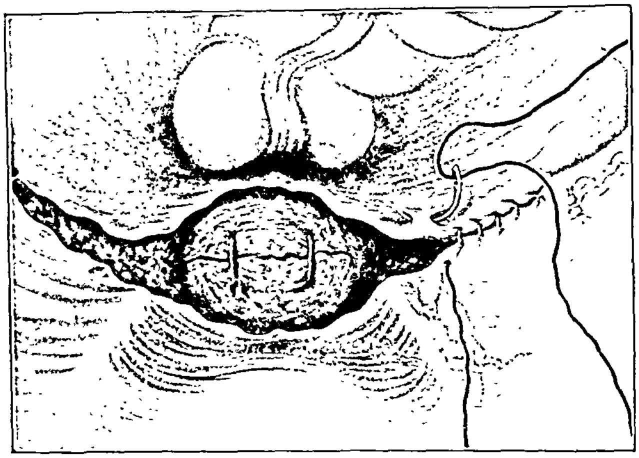

Fig. 5.—Stump of the cervix closed and the peritoneum being sutured.

Hard catgut, chromicized, or dry catgut can not be made to tie securely about a vessel the size of those in question. I prefer Ramsey County or plain catgut previously soaked in water to make it pliable. The use of the surgeon's knot, too, makes it impossible for so small a vessel to be compressed securely, a point which my colleague, Dr. J. N. Jackson, has particularly emphasized. The ligature must be placed under the eye so that the operator may know when the vessel is securely compressed. If these precautions are used mass ligatures, interlocking and backstitching will not be required to satisfy the operator of the security of his work, any more than they are in ligations in the amputation of an extremity.

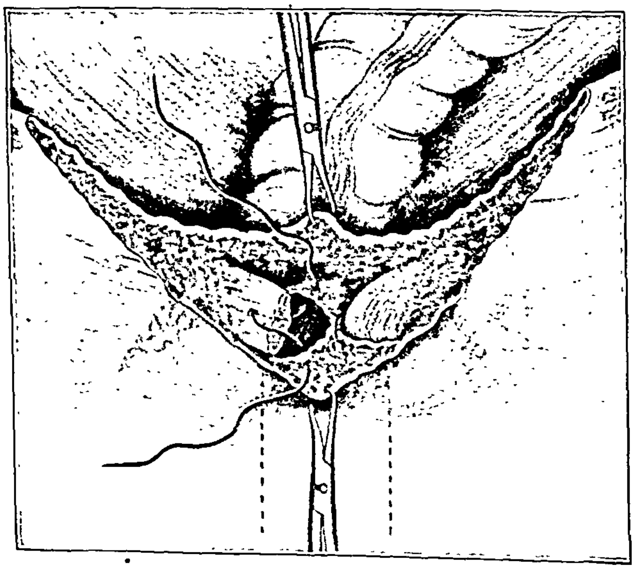

Fig. 6.—Closure of the vagina when the cervix has been removed. The infrauterine ligament is here seen sutured to the upper end of the vagina.

That the operation can not be used in all cases is admitted. In suppurating fibroids and in acute infective processes it is inexpedient. It has been suggested that large fibroids would make its use impossible. My experience has been that in large tumors the vessels are brought nearer the surface and are more readily reached than in smaller tumors.

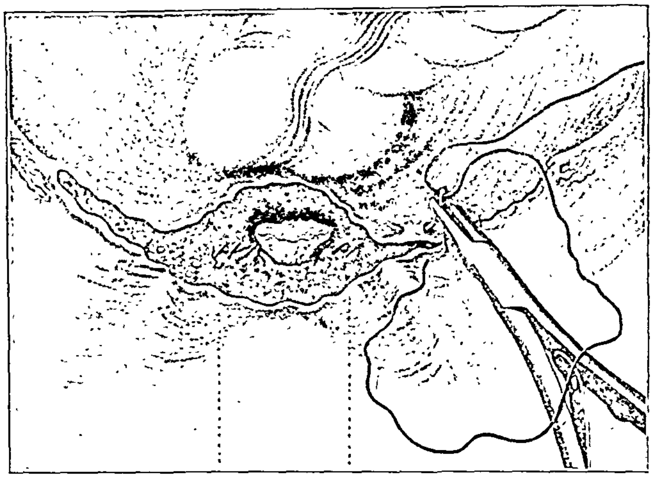

Fig. 7.—Vaginal opening now completely closed; gauze drain inserted to drain peritoneal cavity.

The truth of the last objection I admit: The operator must be secure in his knowledge of the anatomy of the region involved. Without such knowledge neither this, nor indeed any other, operation should be undertaken.

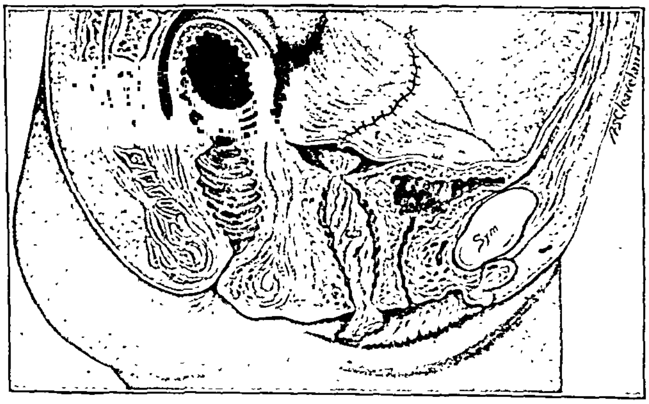

Fig. 8.—Sagittal section of complete hysterectomy. Subperitoneal space drained by gauze (G. D.) into the vagina.

Adjustment of Spectacle Frames for Infants.—Mr. Bishop Harriman (*Brit. Med. Jour.*, Sept. 12, 1908, p. 745) demonstrated in the ophthalmic section of the British Medical Association an ingenious mode of fastening spectacle frames in infants, which he has used for over a year with excellent results. Children require strong frames, while curl sides must necessarily be frail. He used the ordinary straight arms with a loop at the end. A piece of tape, elastic or not, was looped under the nucha, its ends threaded through the eyes of the spectacle bows, then carried on to the vertex, where they are tied together.

LUMBAR PUNCTURE IN DIAGNOSIS AND THERAPEUTICS.

DESCRIPTION OF A DEVICE FOR MANOMETRIC ESTIMATION OF INTRASPINAL PRESSURE.

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Lumbar puncture, as described by Quincke in 1891, has come down to the present time with no essential change in technic, and little elaboration. It is, more and more, taking its place as a practical aid in the diagnosis and treatment of certain well-defined conditions. This paper aims to present some features of the procedure which make it of value to the physician, not only in hospital work, but in private practice, and, in the interest of greater accuracy in making observations, attention will be drawn to a means of making pressure observations in terms of mercury rather than in terms of spinal fluid.

The dangers of lumbar puncture are, with very few exceptions due to carelessness in the matter of surgical cleanliness, so that rigid asepsis removes the element of risk, except in very rare instances. The most frequent source of embarrassment to the operator is to get a "dry puncture" (usually due to a failure to give the needle a sufficiently upward slant), while untoward symptoms on the part of the patient are extremely seldom met. That is to say, transitory symptoms from the effect of altered pressure following the withdrawal of spinal fluid are to be guarded against rather than feared.

Momentary sharp headache or dizziness and fainting sometimes occur. Abducens paralysis of very short duration has been reported in a case in which the needle was introduced and the operation at once stopped on the flow from the needle of a few drops of blood.[1] The few deaths recorded from spinal puncture happened in patients with brain tumor[2] (in one of which hemorrhage occurred in the tumor mass) and in hydrocephalus associated with great pressure. It is my practice to keep the patient, especially if an adult, lying in bed for twenty-four hours after withdrawing any fluid. The fluid should be removed very slowly, and in such amounts that the pressure shall not approach too nearly the normal at the end of the operation in those cases in which the pressure is very high, lest hemorrhage from vasomotor disturbance occur, or too sudden hyperemia of the brain.

If, after withdrawing 2 or 3 c.c., the pressure does not tend to rise slowly, approaching the initial pressure, occlusion of the foramen of Majendie (*apertura medialis ventriculi quarti*) should be suspected and the greatest caution exercised, especially in cases of brain tumor or hydrocephalus. Under no circumstances should aspiration be employed. If the fluid does not flow, Curschmann[3] advises placing ice to the feet. I have noticed that a prolific source of disappointment is the use of a needle without a stylet, whereby, in passing the needle through the tissues, plugging of the lumen takes place. It seems probable that, in the injection of serum into the subdural space, failure to warm it properly to the temperature of the patient's body accounts for the troublesome pain and paresthesias sometimes occurring in the lower part of the body after the injection. In three instances I have encountered hemorrhage undoubtedly due to injury by the needle point of the rich network of spinal veins, but no untoward results followed. Other than the case of Wolff already referred to, there seems to be no record of even temporary symptoms following such hemorrhages.

The most satisfactory apparatus for general purposes is such as is used by Professor Pfaundler.[4] He employs a small mercury manometer attached by a rubber tube to the spinal needle. After taking the pressure reading, the manometer is detached and the fluid flows from the needle. I have modified this by using a device (Fig. 1) that obviates the removal of the manometer. The modification consists in placing between the needle and the manometer a nickelplated, T-shaped tube, with a shut-off valve in two of the arms, by means of which fluid may be withdrawn while the manometer still is in place by opening the valve (Fig. 2, B) in the free arm of the T. Subsequent pressure readings may be made by shutting this outflow valve (Fig. 2, B) and having open the one (Fig. 2, A) toward the manometer. All of the rubber tubing and the T-shaped piece should be boiled as well as the needle. One is then enabled to collect the desired fluid for bacteriologic examination from the outflow arm (Fig. 2, C) without difficulty, to regulate the speed of outflow and to be guided by various manometeric observations of the pressure as to the quantity to be drawn off.

The instrument in common use by which the pressure is read in terms of spinal fluid is a rubber tube 20 to 40 cm. long with an S-shaped glass tube at the distal end and having the proximal end attached to the needle. The glass tube is raised to such a height that the top of the fluid may be seen in it, and the distance of the surface of the fluid above the needle is measured. That this method does not give an accurate estimation of the pressure is evident, for in many instances an indefinite amount of fluid is inadvertently lost, and also because the instrument must contain about 10 c.c. of fluid before it rises in the glass tube, thereby markedly reducing the intraspinal pressure, and making it impossible to estimate the initial pressure, that is, the pressure before any fluid escapes from the subarachnoid space. The normal pressure in millimeters of spinal fluid (or water, its approximate equivalent) is 40 to 150 mm. In mercury it is 10 mm. to 35 mm. But the results of one method can not be expressed in terms of the other by the use of the specific gravity of mercury as a factor, because the mercury manometer gives the initial reading and the other instrument does not.

In estimating pressure the position of the patient and his age require consideration. It is usually easier to have infants and young children in the sitting position. Under these circumstances the spinal pressure varies from 10 mm. to 20 mm. in the former, and from 15 mm. to 35 mm. in older children. On the other hand, adults are under better control in the horizontal position. Two cases will suffice as examples of the change of pressure with posture. In one, sitting, the pressure was 50 mm. of mercury, and lying down fell to 35 mm. In the second it was 22 mm. sitting and 17 mm. lying down.

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[1] Wolff, H.: Zur Frage der Abducenslähmung nach Lumbalanæsthesie Berl. klin. Wchnschr., 1907, No. 41.

[2] Kaupe, W.: Diagnos. u. d therap. Wert der Spinalpunction, Centralbl f. d. Grenzegeb. d. Med. u. Chir., 1907, ix.

[3] Hilfsmittel bei d. Lumbalpunction, Therap. d. Gegenw., August, 1907.

[4] Pfaundler and Schlossmann: Handbuch der Kinderheilkunde, i, 186.

In disease the spinal pressure is highest in inflammatory conditions, especially in tubercular meningitis in the irritative stage, in which it may reach 100 mm. Hg, and in epidemic cerebrospinal meningitis, in which the remarkable pressure of 250 to 300 mm. of mercury is reported as common by Foster.[5] But pressures of 40 mm. to 60 mm. are just as apt to be encountered. One other condition in which excessive pressure may be met is that of chronic internal hydrocephalus, but anything over 60 mm. in children is not recorded. Moderate increase of pressure is found in the other suppurative meningitides, in serous meningitis, in so-called "meningismus," in uremia and sometimes in cerebral tumors.

Normal or subnormal pressure excludes inflammatory processes, unless the heart is weak. But a moderate increase does not exclude the functional neuroses. In a case of cerebellar tumor in the service of Dr. W. I. Terry, at the University of California Hospital, and in which a decompression operation had been done for the relief of symptoms, I endeavored to ascertain the relation between the spinal and intracranial pressure. By passing the needle through the scar the intracranial pressure was found to be 3 mm., while the intraspinal pressure was 10 mm., the patient being in the horizontal position in each case. It is suspected that the pressure of the neoplasm at the foramen magnum accounted for the difference.

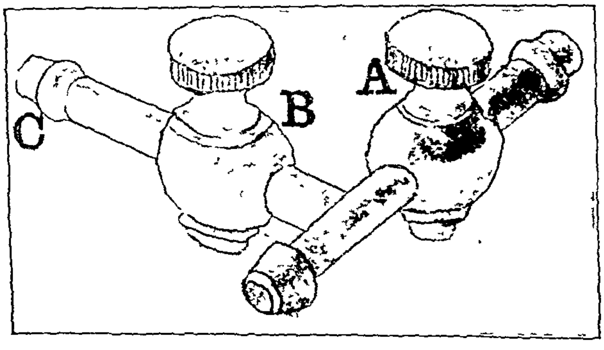

Fig. 1.—Stopcock device that obviates the removal of the manometer when performing spinal puncture A, stopcock to shut off manometer; B, outflow stopcock; C, outflow.

Observations as to the macroscopic appearance of the spinal fluid are too often neglected. For instance, the clear fluid seen in tubercular meningitis, if set aside in a test tube for at least six hours, will show a very characteristic web-like coagulum suspended from the surface of the fluid. Coagula of a coarser nature form on standing in other inflammatory conditions, and in hemorrhage, either from bleeding into the spinal cavity or fracture of the skull, or hemorrhagic pachymeningitis. In birth traumatisms or sinus thrombosis the fluid may be blood-stained, but it lacks tendency to coagulate. Furthermore the albumin content and the copper reducing substance are useful factors in differentiating inflammatory from non-inflammatory processes. Albumin is normally present as globulin in from 0.02 per cent. to 0.05 per cent. It is not increased in non-inflammatory conditions, except paresis and hemorrhagic lesions, and it is only in suppurative and tubercular meningitis that it has been found to exceed 0.5 per cent. The substance in the spinal fluid which reduces Fehling's solution (sometimes glucose, sometimes pyrocatechin) is absent in inflammations of the meninges and returns as the condition improves. This reaction is valuable in differentiating cerebrospinal rhinorrhea from rhinitis.[6]

Cytodiagnosis of the spinal fluid has in the last few years advanced to a secure position, but the crystallization of medical opinion on this subject is not yet complete. It is established that in suppurative meningitis polynuclear leucocytes appear in large numbers, and in epidemic meningitis also, but in this disease lymphocytes may increase as improvement takes place. In tuberculous meningitis the lymphocytes are usually increased in the fluid in the later stages, the polynuclears in the earlier stages. Cases are reported in which the latter predominate throughout the course of the disease, but, as a rule, when polynuclears outnumber lymphocytes in tuberculous meningitis a mixed infection is present. In 80 per cent. of syphilitic affections of the central nervous system there is a notable increase of lymphocytes in the spinal fluid. This holds also in tabes dorsalis and in paresis. In the latter affection albumin may also be increased, but not in tabes nor the other syphilitic conditions.[7]

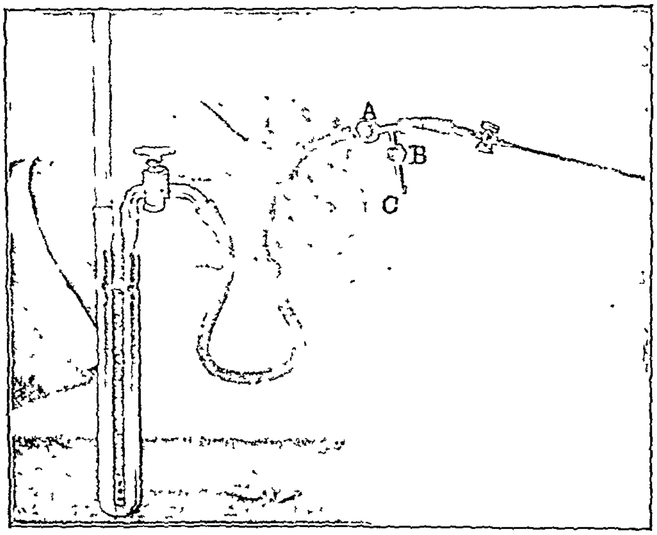

Fig. 2.—Stopcock device connected with Sahli's Pocket Manometer and a spinal needle. A, stopcock to shut off manometer; B, outflow stopcock; C, outflow.

Examination for the presence of tubercle bacillus, the meningococcus of Weichselbaum, the bacillus of typhoid, diphtheria or influenza and the colon bacillus; the pneumococcus, which is the chief pyogen, the staphylococcus, streptococcus and the *Bacillus pyocyaneus* is not a difficult matter, and since all have been demonstrated in the spinal fluid, and as the prognosis and treatment varies to a great degree with the nature of the exciting agent of cerebrospinal inflammations, the importance of such an examination is evident. Search for the tubercle bacillus is rendered less uncertain, if, after the fluid has been allowed to stand long enough for the characteristic web-like coagulum to form, the coagulum be removed and stained for the bacilli, preferably after being digested with pepsin, although this is not usually necessary. A peculiar phenomenon has been observed in this connection: Frequently, when before death tubercle bacilli were discovered with difficulty or not at all, immediately after death they could be demonstrated in large numbers.[8] In one such case I found so many in the fluid, postmortem, that after decolorization in the usual way the preparation still remained red. The explanation of this may be altered chemotaxis after death, between bacilli and tissues, by which the bacteria are drawn from the tissues into the fluid.

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[5] The Etiology and Diagnosis of Epidemic Cerebrospinal Meningitis, Am. Med., January, 1907.

[6] Kinsman, D. N.: Cerebrospinal Rhinorrhea, THE JOURNAL A. M. A., 1908, l, 1791.

[7] Merzbacher, L.: Lumbar Puncture in Diagnosis, Riv. de patol. nerv. e mente., May, 1906, xi.

As a therapeutic measure, lumbar puncture is indicated whenever increased intraspinal pressure gives rise to symptoms. At intervals of from one to five days withdrawal of from 5 to 100 c.c. of the fluid may be advisable. With such a procedure five recoveries[9] from tuberculous meningitis are recorded in which the bacilli had been demonstrated in the spinal fluid. In Adam's[10] twenty-one cases of Pfeiffer bacillus infection there were three recoveries in which lumbar puncture was done one to three times. Schlesinger[9] claims that not only under this procedure will comatose children with tuberculous meningitis be restored to consciousness, but also that convulsions and other irritative manifestations may be obviated. It can not be denied, however, that drawing off fluid in this disease may hasten death. In uremia lumbar puncture and the relief of pressure possibly is an important palliative agency,[11] and in acute serous meningitis it usually causes a favorable outcome.[12] In eclampsia[13] the benefits are not striking, and though sometimes relief of symptoms follows, the procedure is falling into disuse in this connection. In chlorosis, with severe headache, spinal pressure is frequently high, and lumbar puncture has been advised. But in any condition amenable to other remedies, such a treatment would be one of last resort. With the exception of the use of antiserum in epidemic cerebrospinal meningitis, which has revolutionized the treatment of that disease in the last few months,[14] the injection of remedial agents into the subarachnoid space has not been demonstrated to be satisfactory. The intradural infusion of tetanus antitoxin first advocated by Blumenthal and Jacob and von Sicaro is now advised against by Romberg, in view of the fact that its subcutaneous use is more encouraging.[15]

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[8] Pfaundler and Schlosemann: Handb. d. Kinderh., i, 188.

[9] Schlesinger, E.: Der therapeutische und symptomatische Wert der Lumbalpunction bei der tuberculœsen Meningitis der Kinder, Berl. klin. Wchnschr., June 18, 1906.

[10] Grip Meningitis, Arch. Pediat., October, 1907.

[11] Chauffard, A.: Acute Uremia and Transient Spinal Polynucleosis, Semaine med., Nov. 15, 1907.

[12] Riebold, G.: Ueber seröse Meningitis, Deutsch. med. Wchnschr., 1907, xxxii, No. 46.

[13] Thies, J.: *Ueber Lumbalpunction bei Eklampsia*, Zentralbl. f. Gnäk., xxx, No. 18, Pollak, E.: Ueber Lumbalpunction bei Eklampsie, ibid., xxx, No. 31.

[14] Flexner, S., and Jobling, J. W.: Serum Treatment of Epidemic Cerebrospinal Meningitis, Jour. Exper. Med., January, 1908. Chase, W. S., and Hunt, M. L.: Serotherapy of Epidemic Cerebrospinal Meningitis, Arch. Int. Med., April, 1908.

[15] Hofmann, M.: Serum Treatment of Tetanus, Beitr. z. klin. Chir., October, 1907. Mering, von J.: Lehrbuch der Inneren Medizin., 1907, p. 125.

Russell, A. E.: Urmia, Med. Press and Circ., July 3, 1907.

Those who wish to look further into the literature of the subject may find the following additional references of value:

Gindes, E. J.: Meningitisarten und Lumbalpunction nach Quincke, Arch. f. Kinder. xlvi, Nos. 1-2.

Klein, S. R.: Statistical Data of the Work on Spinal Fluid (Lumbar Puncture), Iowa Med. Jour., November, 1907.

Ravaut, P.: Effets de la *ponction* lombaire sur quelques phénomènes cutanés, Presse méd., xiv, Nos. 100-102, abs. in THE JOURNAL A. M. A., Feb. 2, 1907, xlvii.

Toebben, M.: Serum Treatment *of Epidemic* Cerebrospinal Meningitis, München. med. Wchnschr., 1907, xiv, No. 49.

Devraigne, L.: The Diagnostic, Prognostic and Therapeutic Value of Lumbar Puncture in the Newborn, Path. infan., July 15, 1906, abstr. Arch. Pediat., June, 1907.

THE CORSET FOR MOVABLE KIDNEY AND ASSOCIATED VISCERAL PTOSES.*

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In responding to the request to give heretofore unpublished details of my corset for visceral ptoses, I must ask your indulgence, if, while endeavoring to crowd the results of 15 years' work into as many minutes, much is omitted and reference made to prior publications on this subject.[1] The statements relative to my own work are based on a careful review of 7,266 histories which I have been able to gather from the following sources:

	Females.	*Treated for Ptoses.*
Northern Dispensary	3,080	16
Roosevelt Hospital Dispensary........	2,300	161
West Side German Dispensary........	1,559	52
Private records	127	127
Private records, accurately measured	100	100
Total cases considered.........	7,266	456

Visceral ptoses are met with in both sexes, at nearly all ages, and under all conditions of civilized and uncivilized life, especially in young nulliparæ, and women who have borne children. In a large proportion the lower part of the face presents a deeply furrowed, drawn appearance, making the woman appear much older than she is.[2] The attitude is that of one lacking in muscular force and vigor, shoulders stooping, and a doubled-up way of sitting. In nulliparæ we note the absence of fat, so essential to all grace and beauty of form, the narrow, ugly, unequal hips, long, slender waist, the hollow epigastrium, protuberant hypogastrium, scoliotic back, and disproportion between the length of trunk and legs. (Fig. 1).

Of the several ectopic viscera, the most prominent and easily palpable is the kidney. (1) In many instances productive of no demonstrable symptoms; (2) a prolapsed right kidney, compressed by the corsets or waistbands, manifested by Dietl's crises;[3] (3) Intermittent descent of the right kidney, inducing hydronephrosis; (4) slight descent of a chronically congested right kidney, dragging on or compressing the bile ducts, causing acute jaundice;[4] and (5) acute traumatic dislocation of the kidney, most frequently the left, associated with *hematuria.*[5]

The most frequent and important of the visceral ptoses is that of the *stomach and colon*—so insidious in development, so detrimental to health, so frequently overlooked, so intractable to treatment, so damaging to other viscera, dragging down the liver, spleen and heart, seriously interfering with respiration and circulation, alimentation. nutrition and excrementition, degrading all mental, moral and physical functions.

Treatment.—Judging from the writings of such men as Byron Robinson, James Israel, J. Chalmers Da Costa and some of the more recent workers, -pexies, -plications and -ostomies frequently fail to fix, fold or drain, and are to be resorted to only as the last resort. In 1901 I maintained that 90 to 95 per cent. of symptomatic movable kidneys can be cured symptomatically by wearing a corset.[1] If it is permissible to judge by subsequent experience and by the number of cases in which fixation has failed to fix or relieve the symptoms, my estimate at this time would be that not more than one per cent. require operation. In all probability there is not one member of this section who has not been harrassed by patients who have tried binders, belts and bandages, without number, and even one or more operations, who come begging for some means of relief.

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* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the *Fifty-ninth* Annual Session, held at *Chicago, June*, 1908.

[1] Am. Jour. Obstet., July, 1901; also Internat. Clin., iv, 14th series, and i, 15th series.

[2] Med. Rec., July 27, 1907.

[3] Canadian Jour. Med. and Surg., July, 1903.

[4] N. Y. Med. Jour., Sept. 14, 1907.

[5] N. Y. Med. Jour., April 29, 1905.

In order to make clear my position, two questions demand an answer: 1. What are we endeavoring to attain?

The tension and dragging, kinking and obstruction exerted by displaced viscera, can only be relieved by (a) restoring them to their relatively normal relation within the body cavities, and (b) after replacement maintaining them in that position by such means as will be free from injury, and will not interfere with their natural mobility and the performance of their normal functions.

2. How can these objects best be accomplished?

(a) The three most rational and powerful agents at our disposal for visceral replacement are posture, massage and exercise. Under the force of gravity, when a woman lies down, all the organs tend toward the diaphragm, especially if the foot of the bed be elevated, and sooner or later all of the symptoms due to displacement will subside and remain in abeyance, so long as she remains in this posture. In the most severe cases it may be necessary to keep the patient in bed for several weeks, for a regular course of "rest-cure," as carried out by S. Weir Mitchell, before attempting to retain the viscera in position.[6]

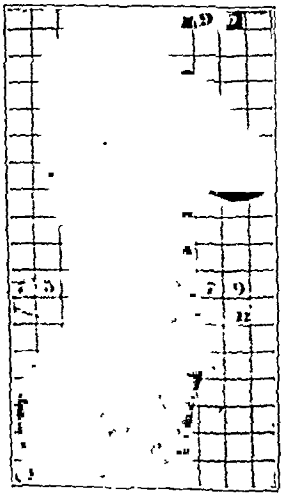

Fig 1.—Silhouette of nullipara, showing protuberant hypogastrium, hollow epigastrium, small, undersized hips, long waist. Each square = 2 inches

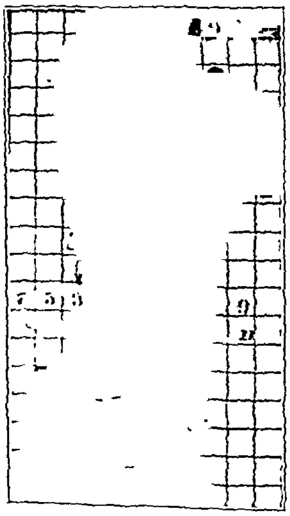

Fig 2.—Same patient as Fig 1 with corset on.

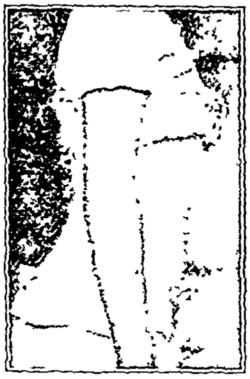

Fig 3.—Same patient as in Fig 1 with corset on, showing flattening of hypogastrium, fullness of epigastrium.

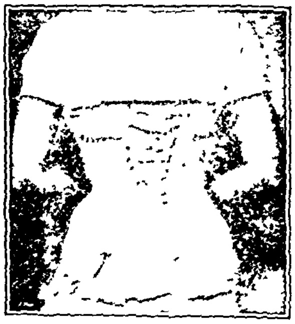

Fig. 4.—Showing corset laced from the waist down; with loose elastic laced in upper part of the corset, and must not be tightened.

(b) While in bed for the "rest-cure," after laparotomy, or during the puerperium, we make use of the "stock" binder[7] to afford support, prevent tension on sutures and as a prophylactic against ptoses after labor.

It was not long after my first experimental use of the ready-made corset for the relief of symptomatic movable kidney as suggested by Edebohls, ere I learned that while a corset laced tightly at the waist-line would readily support a replaceable kidney and would put a stop to such symptoms as were actually due to kidney mobility better than operation, it was quite evident that the more grave and detrimental, chronic, *gastrointestinal displacement and symptoms* were not relieved, but made decidedly worse, by the indispensable, additional *tightening of the corset at the waist-line.* In other words, by the use of a corset laced tightly at the waist we were enabled to determine and relieve kidney symptoms, viz., Dietl's crises, hydronephrosis, jaundice and hematuria, but *it intensified the gastritis, constipation, malnutrition, etc., of enteroptotic origin.*

The Corset.—Many trials with numerous styles of ready-made corsets have demonstrated that the end in view could only be attained by having each corset made to order from measurements of each individual patient, keeping in mind the following essential features:

1. The corset must conform to the latest mode, or fashionable women will not wear it.

2. At the bottom the front steels must overlap the upper half inch of the symphysis pubis; must reach down low and fit very snugly around the hips, stretching very tightly across from one anterior, superior spine to the other, to flatten and reduce the hypogastrium to a minimum.

3. *To prevent constriction, the circumference must equal that of the natural waist;* at the same time there must be a well marked incurving of the sides, at the waist (a) to support the kidney; (b) to prevent the corset slipping upward, and (c) to afford a fashionable outline to the figure.

4. At the back and sides the upper portion must accurately fit the thorax, while in front ample room must be *provided for the replaced stomach,* as any pressure on the epigastrium would induce unbearable pain and discomfort. (Fig. 3).

5. Below the waist the corset must be inelastic, *inflexible, that the replaced viscera may not descend after the corset has been put on;* yet, on the other hand, all that portion above the waist must permit free play to every motion of the trunk, afford unconfined action to the thoracic walls, and in no ways interfere with the action of the heart and the full expansion of the lungs.

6. For thin women, whose hips are more or less deficient in fat, hair pads *must be stitched inside the* lower part of the corset to restore the natural rotundity to the figure and overcome the painful pressure exerted

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[6] Therap. Gaz., July, 1902.

[7] THE JOURNAL A. M. A., 1906, xlvii, 1337; also Am. Med., 1904, vii, 783.

by the corset as it passes over the anterior spines and crests.

7. The one lace must be inserted as follows: Beginning at the first eyelet above the waistline, continue down to the bottom of the corset. (Fig. 4). In the upper part of the corset a thin, flat, hat elastic may be loosely inserted and drawn enough to keep the garment in close contact with the thorax. If this elastic lacing is too snugly drawn it will cause epigastric discomfort.

8. While to the eye the corset presents the same appearance as an ordinary garment, when ordered by the profession for therapeutic effects it must be made, fitted and adjusted with the same care and attention to detail as an orthopedic apparatus.

9. In the fit, manner of lacing and the posture when putting on, these corsets differ so radically from the life habit of the woman that she must be taught the "how and why" and encouraged to persevere in what to her will seem an almost impossible task, with the assurance that she will certainly derive untold benefit.

10. Readjustment of the pads may be necessitated by pressure on the anterior spines, behind which the pads should be quite thick, but padding must not at any time be carried over their border, as the added thickness will intensify the pressure and suffering. Soreness over the front of the thigh will diminish as the skin thickens.

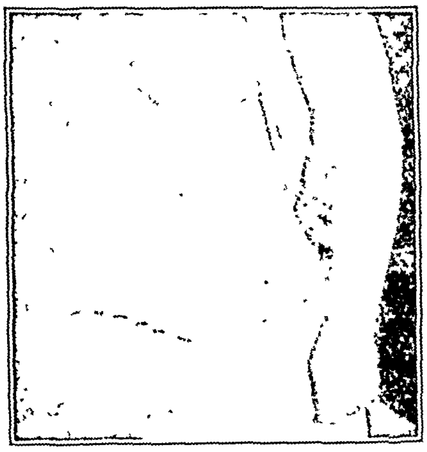

Fig. 5.—Stout, long-waisted, middle-aged primipara, with post-operation ventral hernia. Attitude indicates general relaxation.

Fig. 6.—Same patient as in Fig. 5. Corset on after operation for cure of ventral hernia.

Putting on the Corset.—1. Freely loosen the lowerlacing; wrap the corset around the body; lie down on the bed; flex the legs to a right angle, and while in this posture massage the abdomen, stroking upward, for ten minutes, thereby assisting the displaced organs in gravitating toward the diaphragm.[8]

2. Draw the corset well down over the hips, and fasten in front, beginning with the lowest hook.

3. Without lowering the hips, draw in the lace at the back as tightly as possible, tying it at the back close to the last eyelet.

4. Do not attempt to pull the corset down after the front has been fastened.

5. Do not lower the hips or stand or sit up until the back lacing is drawn as tightly as it can be worn.

Tests of a properly fitted and adjusted corset are:

1. The front steels must always overlap the upper border of the symphysis; the lower part or suprapubic area must be flattened and fit so snugly that when lying down the fingers can barely be inserted between the corset and the bone.

2. The replaced stomach should be noticably prominent within the upper portion of the corset, and cause a distinct bulging of the epigastrium. (Figs. 3 and 6).

3. On rising, sitting or walking, the corset should not "hitch" upward.

4. The garters play no part other than as supports for the stockings.

Prophylactically the corset has been put on young girls at fourteen, on women after labor to prevent or cure jaundice, hydronephrosis, and ptoses; after operation to prevent or overcome ventral hernia, and to aid in restoring the health and strength of the convalescent.

Inappropriate Cases.—We have not deemed it expedient or wise to permit the wearing of a corset (a) when the kidney is not replaceable above the waist-line; (b) when the stomach is held down below the umbilicus by peritoneal adhesions; nor (c) in the presence of pus tubes or tumor in the pelvis or abdomen. On the other hand, a most intractable case of vomiting of pregnancy lasting to the sixth month was stopped immediately by pelvic packing in the knee-chest posture and the wearing of a corset.

Résumé.—The distinguishing features of my plan in the treatment of visceral ptoses, involving one or several organs are:

1. Gravity replacement in the semiopisthotonos posture, massage, exercises, and rest cure.

2. Support of the replaced organs by a special, made to order corset of fashionable design, "V'ed" in front, fastened by one lace, inserted from the waist down, put on and laced while in the semiopisthotonos posture, and worn at all times, except when lying down.

The absence of belts and buckles, flaps and straps, plates and trusses, air bags and kidney pads, and insecure elastic webbing (except the regulation side garters), the fact that it is a real corset, which, though at first troublesome to adjust, improves her figure, affords just what she needs in the way of real comfort and support, on which her clothes hang gracefully, and as time goes by she becomes more upright in her attitude, displays a sweeter disposition, takes a more optimistic view of life, and can enjoy working, walking and the pleasure of living.

540 Madison Avenue.

ABSTRACT OF DISCUSSION.

Dr. Judson Daland, Philadelphia: I know that the ordinary corset unquestionably makes gastroptosis and enteroptosis worse. The object to be attained in the relief of enteroptosis is to elevate the contents of the abdominal cavity. It is extremely important that the patient assume the position indicated in the diagram. When the corset is in position does the *x*-ray demonstrate the replacement of the stomach and transverse colon? Up to the present time I have been unable to find a corset that accomplishes this replacement. Certainly those that we ordinarily see do not do it and we are compelled to rely more particularly on an ordinary belt. Such a belt frequently replaces misplaced viscera, but as Dr. Gallant has pointed out, this makes a vast difference in the woman's wearing apparel. To bring about a restoration of misplaced viscera and to allow a woman to retain the wardrobe already in her possession is an exceedingly difficult thing to do. The prevalence of misplacement of the viscera is extremely great and the treatment by replacement, when properly secured, is extraordinarily satisfactory. In certain cases in which replacement has been impossible, a considerable symptomatic improvement has followed despite this fact.

Dr. Mary H. McLean, St. Louis: I have tried Dr. Gallant's method for the last three years with a great deal of success, and whereas I formerly tabooed the corset, in many cases I now recommend it. In addition to its usefulness in enteroptosis it is valuable after abdominal sections, and especially after drainage cases, in which I ordinarily have used the binder, this corset accomplishes the work much more satisfactorily. The abdominal binder has to be held down by perineal straps, making it very disagreeable in the summer time; while the corset is held down by the garters with much less discomfort.

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[8] Internat. Jour. Surg., February, 1903.

Dr. A. Ernest Gallant, New York: The photographs show that with this corset properly adjusted the stomach is in the right position. With my corset the patient would have a straight line to the top of the corset. The thickness of the padding inside the corset is a matter of taste and necessity. If the woman is very thin we make it thick. I always try to secure a graceful figure. If the woman is ten pounds under weight more padding is put in. The special point is to pad enough and to place the padding just behind the anterior superior spine to relieve pressure. Every corset-maker should endeavor to make the corset a work of art as well as scientifically useful.

PHAGOCYTIC IMMUNITY AND THE THERAPEUTIC INJECTION OF DEAD BACTERIA IN ENDOCARDITIS.

A PRELIMINARY REPORT.*

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INTRODUCTION.

Our knowledge of the factors which determine the localization of micro-organisms on the endocardium in endocarditis, their maintenance and the means of defense on the part of the host is still obscure.

It is not difficult to understand how the endocardium becomes involved during lobar pneumonia with its pneumococcemia or in septicopyemic conditions due to the streptococcus or staphylococcus. In fact, in these cases this is what we would occasionally expect. The cases of endocarditis, on the other hand, that develop insidiously from no demonstrable source of infection or from an infection which is slight and which run a more chronic and milder course are more difficult to understand.

In fourteen cases of pneumococcus endocarditis of the latter type the pneumococci isolated from the blood before and after death were readily taken up *in vitro* by leucocytes in the patient's normal blood. They possessed no virulence, or very slight, to animals. This observation was made also in a case of staphylococcus endocarditis.

The pneumococci isolated from the blood in lobar pneumonia, on the other hand, uniformly resist phagocytosis and possess a correspondingly high grade of virulence to animals.[1]

How do the micro-organisms in endocarditis of this mild type protect themselves in the blood and endocardium and ultimately cause death when they seem to be without virulence, while those in pneumonia with their high grade of virulence are usually destroyed and recovery is the rule? The object of this study was primarily to explain, if possible, the mechanism involved in these and other allied questions and to determine the effect of the therapeutic injections of dead bacteria in endocarditis. A full report of the experiments will appear later.

CONSIDERATION OF CASES.

Clinically the cases are all characterized by a subacute course, and, while they must be regarded as cases of malignant endocarditis in that the patients all succumbed to the infection, they should properly be classed under the group designated in Osler's recent communication as chronic septic endocarditis. All but three occurred in patients between 15 and 29 years of age. The occupation of all was chiefly in doors. Six of each sex were affected. In nine cases the original source of infection could not be determined; in one it seemed to be an attack of tonsillitis; in another the most probable source was pyorrhea alveolaris; while in still another it was an abscess of the alveolus and tooth. The exact duration of the process could not be accurately determined but probably ranged from four to twelve months or more in the different cases. The blood culture was the means of making an early positive diagnosis in almost all of the cases. The making of a correct diagnosis on the clinical grounds in most of the cases was difficult because of the insidious onset, the chronicity, and, most of all, because the acute process was engrafted on an old valvular lesion in seven cases. In three cases this point could not be definitely settled, while in four no definite heart lesion was present. Of the four last mentioned there was a definite source of infection in two, while in the other two there was none. Petechial hemorrhages in the skin, one of the much sought-for signs in endocarditis, occurred late in nearly every one of the cases, long after the blood showed pneumococci. Probably the most constant feature was the development of an anemia of a secondary type. This was most pronounced in the cases which ran a more chronic course. A persistent leucocytosis was present in only four of the cases; the rest showed little or only temporary increase in the number of leucocytes. The leucocytosis was excessively high in the case of peculiar staphylococcus endocarditis, going to 120,000 just before death. Definite chills occurred only rarely and in no case in which chills seemed to mark the onset of the disease. Early the fever was remittent in type. In some patients the temperature was normal for weeks and then showed an afternoon rise for a short period. Later as embolism and petechial hemorrhage occurred the fever took on a septic or intermittent type and was associated with sweats.

Autopsies were obtained in six of the cases. Anatomically the valvular lesions were all characterized by huge vegetative growths on the valves involved. Usually the surfaces of the vegetations were studied with recent small necrotic areas and ulcers. The infarcts found showed no suppuration.

BLOOD CULTURES.

It is an accepted fact that fluid media are more efficacious than solid media in routine blood cultures. All observers have obtained a higher percentage of positive results by this means in pneumonia, typhoid fever and septic processes generally. In endocarditis of the type under consideration, on the other hand, solid agar media have given positive results repeatedly where the cultures in broth and milk remained sterile. For this and for the reason that the latter method is a means of obtaining a knowledge of the number of bacteria circulating in the blood, the importance of making inoculations in both liquid and solid media in all cases in which endocarditis is suspected may be emphasized. Repeated cultures in a number of cases showed that while the bacteriemia is constant, the number of bacteria is never very great. The number of colonies varied between 4 and 2,000 per c.c. of blood. The organisms isolated from the blood before and after death are undoubtedly pneumococci in all but one case, which yielded a staphylococcus with certain peculiarities. The pneumococci isolated are quite different from those isolated from the blood in lobar pneumonia. As above stated, they are freely susceptible to phagocytosis when isolated and possess practically no virulence to animals. They grow tightly to the surface of the blood agar and in clumps of broth and in the fibrin clot of the blood culture in broth. The properties were more pronounced in some strains than others, and in one case became more pronounced as time went on. These properties are lost sooner or later on artificial cultivation and on animal inoculations, the organisms then taking on the characteristics of typical pneumococci.

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*I wish to express my gratitude, especially to Dr. Billings, in whose service all but three of the cases occurred; to Drs. Sippy, Herrick and C. T. Clark, for one case each, and to Dr. Hektoen for aid in the work.

[1] Human Pneumococcal Opsonins and the Antiopsonic substance in Virulent Pneumococci. Jour. Infect. Dis., 1907, p. 285.

ANIMAL EXPERIMENTS.

The characteristics just mentioned are believed to be environmental modifications and to bear a close relation to the ability of the organisms to produce endocarditis. By inoculations into animals of hugh doses of the organisms before the special characteristics were lost, endocarditis resulted without injury of the valves in case of all of the strains tested (six), endocarditis being produced in sixteen rabbits without injury of the valves. Pericarditis developed in every instance in which the endocardium was involved. This was quite independent of the place of inoculation. The special affinity these organisms had for the endocardium, pericardium and the intima of the blood vessels is striking. Intraperitoneal and usually subcutaneous injections as well cause no lesions in these regions but produce a pericarditis and endocarditis instead, especially when a simultaneous dose is injected intravenously. In order to produce endocarditis it was necessary to inject hugh doses and preferably into different regions of the body. The animals recovered promptly from the immediate effects of the injection. Blood and peritoneal cultures at the end of two or three days were sterile. Later, two or three weeks after the valvular lesion became pronounced, a loss of weight, fever and dyspnea occurred and in some instances a definite heart murmur developed.

After the special characteristics were lost it was no longer possible to produce endocarditis. The experimental production of endocarditis in the past has been considered quite impossible without trauma to the valves. The earlier attempts in this study were failures probably because the organisms were inoculated too long after isolation and injected in too small doses.

THE OPSONIC INDEX AND THE THERAPEUTIC INJECTION OF DEAD BACTERIA.

Early the opsonic index is usually normal or a little above, depending on the presence or absence of extension or accidents, such as thrombosis and embolism. Toward the end it falls far below normal. Four cases showed a rise just before death. The injection of the homologous dead organisms early in these cases was followed in twenty-four and forty-eight hours by a rise in the opsonic index and in the leucocytes; usually there was also a corresponding rise in temperature. Clinically no change for the better or worse could be noticed so long as the index was up and the general condition of the patient good. Later, however, after the patient's condition was poor and the opsonic index far below normal, the rise in leucocytes and opsonic index was associated with a drop in the temperature and a definite improvement in the general condition. The rise in the opsonic index and in the number of leucocytes following the injection of dead bacteria is apparently not associated with the reduction in the bacteria circulating in the blood.

A painstaking study of the method by which the bacteria in these cases seemed to protect themselves against the antibodies of the host may be briefly summarized:

1. By cultivation in the serum and blood of the patient these organisms acquired a resistance to opsonification and phagocytosis instead of an increased susceptibility.

2. They usually grew more rapidly in the patient's serum than in normal serum.

3. While leucocytic normal blood had a marked bacteriolytic effect due to phagocytosis and intraleucocytic destruction, the patient's blood containing the same number of leucocytes, the serum having a high opsonic index, often had no bacteriolytic action. This seemed not wholly due to the lack of phagocytosis but to the inability of the leucocytes to destroy the bacteria after they had been taken up.

CONCLUSIONS.

1. The blood culture in endocarditis is the best means of making an early diagnosis. It should always be made for the identification and study of the infecting organism as well as for prognostic reasons. Barring accidents, the greater the virulence the more grave the prognosis.

2. The therapeutic injection of dead bacteria in endocarditis has very little influence on the course of the disease until late in the course, when there is a temporary improvement following the injections.

3. A very close relation exists between the biologic character of these organisms and their ability to produce endocarditis in the class of cases observed.

4. The organisms isolated, while of practically no virulence to animals and susceptible to phagocytosis on cultivation, appear to immunize themselves against the antibodies produced by the host, and thus to overcome the resistance of the latter.

100 State Street.

PRELIMINARY REPORT OF THE ANESTHESIA COMMISSION OF THE AMERICAN MEDICAL ASSOCIATION.*

At the session of this Section in Atlantic City, in 1906, the then Chairman, Dr. Bevan, made some interesting remarks on the value of nitrous oxid as a general anesthetic, and ventured to predict its more common adoption for major surgical procedures. So much interest was aroused by his statements, that this section resolved to appoint a commission to investigate broadly the subject of the numerous anesthetics, old and new, in order that, after proper deliberation, we might set forth an authoritative estimate of their proper value for the profession. In accordance with that resolution a commission was appointed, which has been engaged for some months on the prescribed problem.

Our task is far from simple. The ground to be covered is wide. The opinions of leading surgeons are often opposed and the anesthetics struggling for recognition are held in varying esteem by responsible persons of divergent views. In consideration of these facts, therefore, we have determined to advance slowly with our task, to weigh carefully the claims of the various anesthetics, to set forth soundly and without prejudice their sundry merits and demerits, and to present in the end a series of recommendations, which we trust may commend themselves to you.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Accordingly, we propose—through ourselves or our successors in this office—to investigate yearly one or two drugs only. As a preliminary to this investigation, we have this year collected papers on a number of anesthetics, their more popular methods of administration, and the claims made for them by their most enthusiastic advocates. These papers, tentative, and lacking our unanimous endorsement, we shall publish in our printed report this year.

CHLOROFORM-ETHER.

The work so far has established certain interesting facts. For example, we find that the old chloroform-ether controversy is still active, in spite of the extensive investigations and elaborate findings of numerous physiologists and committees similar to our own. We are told that the practice of surgeons, in their use of anesthetics, has been but little altered by the above-named scientific investigations—that the users of ether still use that drug invariably—and that the users of chloroform still cling to chloroform. We believe that the actual facts regarding the safety and advantages of these two anesthetics are but little questioned, but we are convinced that the divergence of opinion is due today largely to certain conceptions and misconceptions regarding the methods of their administration.

Most men agree that all anesthetics in the hands of inexpert anesthetists are dangerous, while all agree that all anesthetics, in the hands of experts, and applied to suitable cases, are commonly free from danger. As an academic proposition such a statement is well enough—but unfortunately, when we consider the wide demands of a medical and surgical practice which embraces the whole civilized world, and is conducted mainly by general practitioners of little special training as anesthetists, we are forced to regard primarily the dangers and the disadvantages of general anesthetics when used by the inexpert. The problem is quite different regarding the use of anesthetics by the expert. In our researches and recommendations we shall endeavor to bear in mind these two phases of the ether-chloroform problem—the use of these drugs by the expert and the inexpert.

SPINAL ANESTHESIA.

Within recent years other drugs have been forced to the front, as well as novel methods of employing old drugs. Spinal anesthesia is one of the most important of the new methods. It is gaining constantly a broader and more favorable recognition, as its just claims are being acknowledged, and its limitations are being appreciated. One of our collaborators states: "It is my belief that it (spinal anesthesia) has come to stay and will always, in certain cases, prove safer and more satisfactory than any general anesthetic which we now have. I have used it since 1900 in cases where I have seen a clear contraindication to both chloroform and ether, and I have as yet no occasion whatsoever to regret its use. In all I have used it about 150 times, and have statistics of more than 1000 cases without a death. . . . I believe it is particularly indicated in the surgery of the prostate and the rectum, where it is sometimes desirable to have the cooperation of the patient during certain steps of the operation. In all of my cases the operations have been below the diaphragm. Morton and others report analgesia of the upper extremities, even the tongue, where the agent is thrown into the spinal canal with considerable force. . . . While my experience with cocain sterilized by the fractional method was entirely satisfactory, I have given it up for stovain, on account of theoretical considerations. The latter substance stands a temperature beyond the boiling point, and therefore is free from objections which obtain with cocain. We have had less postoperative nausea and headache with stovain. . . . As to the indications for spinal anesthesia: I consider it safer than general anesthesia, (1) in drunkards; (2) in cases of marked nephritis with accompanying heart lesions I am satisfied that it is safer than either of the general anesthetics usually employed; (3) it certainly has seemed to me better in operations of necessity on diabetic subjects; (4) in marked bronchitis, emphysema probably associated with cardiac lesions, and arteriosclerosis; (5) in hernias, and operations on the prostate and rectum, where it may be desirable to have the patient cough and strain during the operation. The average duration of analgesia has been about one hour and thirty-five minutes. . . . Every patient on whom it (spinal anesthesia) has been used, with the exception of one, a diabetic nearly 80 years of age, whose leg I amputated, recovered. He died many days afterward in the usual way of diabetic coma." We report these views as they embody the convictions of a surgeon of wide experience.

NITROUS OXID.

Nitrous oxid, one of the oldest of general anesthetics, is coming into use for major operations. We are familiar with its employment by dentists and by surgeons for minor operations, as well as with its use to induce anesthesia as a preliminary to ether—but its employment combined with air throughout major operations is still something of a novelty, while its greatest advantage is that it is the safest general anesthetic known.

H. A. Kelly and A. D. Bevan have employed it for operations of the first magnitude, and have shown that the patient can be carried along under its influence comfortably and safely for more than an hour. With Bevan it is the anesthetic for the reduction of fractures and dislocations; for operations on felons; for breaking up adhesions in joints; for draining empyemata and lung abscesses; for exploratory abdominal sections; for operations on the biliary passages; for nephrotomy, nephrectomy and nephrolithotomy; for suprapubic cystotomy for stone, and for suprapubic prostatectomy; for draining an appendiceal abscess; for colostomy, gastrostomy and enterostomy; for the repair of typhoid perforations, and of gastric and duodenal ulcers; for the radical cure of hernia and the relief of strangulated hernia; for hydrocele and varicocele; in castrations; in amputations, except at the largest joints; and for the removal of benign tumors.

This is an important and striking list, and it covers many of those conditions for which one surgeon might choose spinal anesthesia, another local anesthesia, and another one the more familiar general anesthetics. How shall we reconcile divergent views?

LOCAL ANESTHESIA.

Within recent years certain surgeons speaking with authority have urged us to employ local anesthesia in the case of many major operations, and last year J. F. Mitchell, of Washington, read before this Section an important account of his experience with local anesthesia. Your commission have had the advantage of Dr. Mitchell's cooperation in preparing this report. With widening practice and endeavor, he finds the scope of local anesthesia to be surprisingly broad. The method is applicable not only to minor operations, but to all amputations of limbs, to operations on bones, to the exploration of the abdomen, for typhoid perforations, for appendectomy, for all forms of hernia, for all operations on the male genital organs, and for most benign tumors. We shall publish in our complete report Mitchell's brief final statement on this subject of local anesthesia.

RECTAL ANESTHESIA.

Rectal anesthesia by ether, after being tried and abandoned nearly twenty years ago, is now being practiced with success and advantage. The improved technic and good results of Cunningham of Boston and Brewer of New York, show this form of anesthesia to be safer than at first was supposed. In the case of carefully prepared patients and a gradual administration of the anesthetic through a suitable apparatus, good results can be obtained. The method is, of course, an ideal form of anesthesia for all head and neck operations. The method is valueless and dangerous in unskilled hands. Its use implies careful preparation of the rectum, a special apparatus, and a patient, intelligent administration.

In from three to five minutes from the time the etherization is started the odor of ether can be perceived in the patient's breath; in two or three minutes more he becomes drowsy, his eyes close, his breathing becomes tranquil, regular, and slightly stertorous, and he passes into complete anesthesia, usually without excitement or struggling. The time necessary for the production of complete anesthesia by this means varies from six to fifteen minutes, and the condition once established is maintained easily for an indefinite period.

There are numerous special methods of anesthesia suitable for special conditions, for special patients, and for special operations. Freeman Allen of Boston has supplied us with an interesting brief paper on these matters. He deals with brain operations, eye and ear operations, nose and throat operations, resections of the jaws and tongue, the dissection of goiters, of cervical lymph nodes; and with operations on the larynx and esophagus. He discusses the preparation of the patient for inhalation anesthesia. He describes scopolamin-morphin anesthesia, rectal anesthesia, and such special methods as Crile's and Fillebrown's. Allen's paper also will be published in full.

From the brief statements which we have set forth, you will see something of the breadth and of the intricacy of the present-day problem of anesthesia. As we have already stated, it is a striking fact that all the newer methods demand expertness, experience and special apparatus. They appeal especially to surgeons who are equipped with the paraphernalia of expensive and highly specialized clinics. They are little suited to physicians in general practice. For the latter great class of practitioners, the old general anesthetics, chloroform and ether, will probably hold their own until increasing experience has enabled us to simplify and to make safe the newer and more novel methods.

RECOMMENDATIONS.

We submit three recommendations regarding general anesthetics:

1. That for the general practitioner, and for all anesthetists not specially skilled, ether must be the anesthetic of choice—ether administered by the open or the drop method.
2. That the use of chloroform, particularly for the operations of minor surgery, be discouraged, unless it be given by an expert.
3. That the training of skilled anesthetists be encouraged; and that undergraduate students be more generally instructed in the use of anesthetics.

We believe that the further use of nitrous oxid, combined with air or oxygen, in major surgical operations, is promising.

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METHODS OF ADMINISTERING ETHER.[*]

Prepared under the direction of J. F. Binnie, M.D.

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Statistics regarding the death rate of anesthetic agents, although open to grave fallacies, show that ether is by far the safest general anesthetic we have, with the exception of nitrous oxid. In reviewing the statistics, it is a noticeable fact that the death rate, both immediate and late, under the more experienced anesthetics, is so much lower than in the hands of those not skilled in this line of work, that it would seem that deaths are due more to faulty administration, or the selection of the anesthetic unsuited to the case, rather than to the anesthetic itself.

The most reliable statistics from all parts of the world give an average of one death to about every sixteen thousand administrations of ether. Dr. Julliard, of Geneva, reports from various reliable sources 314,738 administrations of ether with twenty-one deaths, or a death rate of one in 14,987. Dr. Ormsby, of Dublin, reports 92,815 ether administrations with but four deaths, or one in 23,204. Professor Tripier reports 6,500 cases without a death, and Alice McGraw 15,000 personal cases without a death. Dr. Rabatz reports 150,000 cases of ether administrations without a death.

PRIMARY CAUSES OF DEATH.

Turnbull reviews the literature (1888-1895) of eleven cases of death from ether. Death occurred in less than one minute after the administration was begun in three cases, and within the first few minutes in four of the other cases. One patient died "during the operation," and one at the end of one and one-half hours The time of death of the other two patients is not recorded. It appears that most deaths from ether occur during the stage of excitement or before complete narcosis is established, and is probably due to functional disturbances of reflex origin. In deaths from ether it rarely happens that cardiac failure precedes respiratory failure. The deaths that occur during the surgical stage of anesthesia appear to be due to anesthetic shock.

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[*] The following papers by Drs. Cunningham and Andersson, Haggard, Mitchell and Allen were prepared with the cooperation and under the direction of the Anesthesia Commission. They are papers which embody the results of recent research, and are published by the commission for the matters of exceptional interest which they contain The paper by Dr. Hamburger and Dr. Ewing was prepared in connection with the interesting clinical work of Dr. A. D. Bevan, and is courteously contributed by the authors.

METHODS OF ADMINISTRATION OF ETHER: CLOSED METHOD.

This is obtained by fitting a closed cone closely to the face, or by the use of inhalers provided with pliable bags for the purpose of rebreathing. The more flexible the material of which the cone is made the more it will permit of rebreathing.

Advantages.—1. The rebreathing gives a much quicker narcosis.

2. Only a small amount of refrigeration because of the retention of the warm exhaled air.

3. A good diffusion of ether vapor and air, therefore less irritation and less chance of a hypersecretion of mucus.

4. A small amount of ether is necessary because of the rebreathing.

Disadvantages.—1. The rebreathing causes a decreased oxygenation, which predisposes to toxic effects of the anesthetic agent. It also gives a respiration greatly increased in carbon dioxid, and produces toxic effects from the organic materials of expired air.

2. It is impossible to regulate the dosage (even approximately) because of the necessity of pouring the ether into the cone or inhaler intermittently. This uneven administration permits of the possibility of exceeding the safety margin and also predisposes to anesthetic shock.

3. The method is very disagreeable to the patient because of a feeling of impending suffocation in the first stage, which often causes extreme fright and struggling.

OPEN METHOD (DROP METHOD).

The open method consists in the use of a small metal frame-work covered with gauze on which the ether is continuously administered by drops.

Advantages.—1. There is little or no rebreathing which permits of the normal oxygenation, no increase of carbon dioxid or poisoning from exhaled organic substances.

2. It permits of the administration of a safe and fairly uniform ether vapor.

3. The induction period with low vapor strength does not produce a feeling of suffocation, and induces anesthesia with a minimum of distress to the patient.

4. The full oxygenation of this method is conducive to complete muscular relaxation and prevents exaggerated abdominal breathing.

5. Its simplicity and adaptability for the inexperienced anesthetist.

6. Its safety has been demonstrated by extensive usage.

Disadvantages.—1. Produces great refrigeration. Whatever heat is taken from the inspired air by the vaporization of the ether is in turn taken from the lungs, as the exhalation is always at practically body temperature, regardless of the temperature of the inhalation. Experiments have demonstrated that a room at 80 F., 2.1 per cent. ether vapor reduces the inhalations to 30 F., and 5.4 per cent. ether vapor to 9 F., thus causing a loss of about 21,000 calories of body heat for every ounce of ether used. If refrigeration is a factor in the production of post-anesthetic pulmonary complications, the open or drop method, which is the most efficient of all methods in extracting heat from the patient, would seem to invite the occurrence of post-anesthetic pulmonary involvement. If refrigeration adds to shock, the open or drop method would, regarding the production of shock, head the list of all the methods of administering ether.

2. Incomplete diffusion of ether vapor and air because of the close proximity of the application of the liquid ether to the face.

3. Unduly large amounts of ether required because of the waste of ether from its vaporization by the exhalation.

4. Room may become saturated with ether vapor during long anesthesias.

5. Longer time necessary to induce anesthesia.

SEMI-OPEN METHOD.

This is obtained by a modification of either of the preceding methods so that the air supply may be controlled, thus causing a limited amount of rebreathing. The appliances used are usually:

1. The mask as used in the open or drop method, with additional layers of gauze or gauze surrounded by towels.
2. A cone containing gauze with both ends open.
3. Any one of the several inhalers (Ormsby's, Braine's and others) with mechanical devices for limiting the air supply.

The semi-open method partakes of the advantages or disadvantages of the two preceding methods to the degree that it approaches one or the other.

MECHANICAL ADMINISTRATION.

Another method of administering ether is by means of an apparatus (Cunningham's) by which the strength of the ether vapor is controlled mechanically by definite percentage, thus giving an even measured dosage. Excessive refrigeration of the inhalation is prevented by means of radiation from a chamber of warm water. But little ether is used because the exhalation does not come in contact with the ether. The inhaler is small so that there is little or no rebreathing. The apparatus has the advantage of simplicity, and the passage of the inhalation through the apparatus gives a thorough mixture of air and ether vapor.

RECTAL ETHERIZATION.

Various apparatus have been used for rectal etherization, some of which have met with fair success.

Advantages.—1. Postoperative nausea and vomiting has been practically absent with this method, and recovery is rapid.

2. Is well suited for operations on the nose and mouth because the anesthetic materials are out of the way.

3. It is well suited in cases of extreme pulmonary or bronchial involvement.

4. A small amount of ether is used.

5. It is not disagreeable to the patient. There is little or no stage of excitement.

Disadvantages.—1. The induction is unusually long.

2. It fails to produce anesthesia in some cases.

3. It is difficult to regulate the dosage.

4. Colicky pains, diarrhea and painful distention of the intestines sometimes follow this method of etherization. This method has had some fatalities, although it has been used without a fatality in a series of 15,000 cases

NITROUS OXID—ETHER SEQUENCE METHOD.

This is obtained by several different apparatus (Clover's, Hewitt's, Bennett's Pedersen's and others), by which nitrous oxid is given until narcosis is obtained, then followed by ether vapor and nitrous oxid, then continued with ether vapor and air. It is necessary for the gas-ether apparatus to employ the aid of anoxemia by the use of a rebreathing bag to maintain a narcosis between the discontinuance of the gas and until the state of complete etherization is obtained. It is necessary to discontinue the administration of the gas early because of the asphyxiation which would follow otherwise.

Advantages.—1. Since narcosis is produced first by gas, the odor of the ether and distress of the induction period is abrogated. Thirty seconds is usually sufficient to produce nitrous oxid narcosis.

2. Surgical ether anesthesia is obtained in from two and one-half to four minutes.

3. Statistics show that the gas-ether sequence is much safer than the administration of ether alone. This is probably due to the elimination of the stage of excitement which is the most dangerous stage of anesthesia.

4. A small amount of ether is necessary to continue anesthesia because of the rebreathing of this method.

Disadvantages.—1. It requires considerable skill for its administration.

2. The cyanosis from the gas and the clonic spasms which sometimes follow is, perhaps, free from danger, but is frightening to those unaccustomed to its use.

3. The rebreathing is objectionable for reasons stated before.

4. It is necessary to give a very strong ether vapor early to prevent a return of consciousness after the effects of the gas and rebreathing are gone. This sudden change to a strong administration of ether vapor often causes laryngeal spasm.

NITROUS OXID-OXYGEN-ETHER SEQUENCE METHOD.

This is also obtained by means of special apparatus (Gwathmey's, Cunningham's). No rebreathing is used. Anesthesia is begun by the administration of nitrous oxid mixed with oxygen in amounts varying from 5 to 15 per cent., according to the depth of anesthesia, the type and condition of the patient. As soon as consciousness is lost ether in gradually increasing amounts is given with the gas and oxygen. When complete ether narcosis is obtained (three to five minutes) the gas and oxygen is discontinued and air substituted.

Advantages. — 1. The nitrous oxid, oxygen-ether method has the advantages of abrogated induction period and the quick surgical anesthesia, the same as the nitrous oxid-ether method.

2. The oxygen mixed with the nitrous oxid prevents cyanosis, muscular rigidity, clonic spasms and other symptoms of asphyxiation, without destroying the anesthetic properties of nitrous oxid.

3. By mixing oxygen in the proper proportions with nitrous oxid, complete narcosis can be maintained indefinitely, and is used sufficiently long to permit complete ether narcosis to be established. Since the nitrous oxid and oxygen are continued until complete etherization, there is then no return of the reflexes when air is substituted, and consequently no swallowing of the ether laden secretions. This prevention of swallowing eliminates a great factor in the production of post-anesthetic nausea and vomiting.

4. This longer administration of nitrous oxid and oxygen permits of a gradually increased and dilute administration of ether, which tends not to excite a hypersecretion of mucus. Also, the patient is at no time overwhelmed with ether, as with the gas-ether method.

5. Nitrous oxid-oxygen-ether apparatus provides for the use of oxygen with the ether, if a condition arises which demands it. Oxygen administered with ether will quickly stop a clonic spasm without decreasing the amount of ether being used. This can not be done with air. Oxygen administered with ether gives a better narcosis and more perfect relaxation. It is often of decided advantage in patients of feeble vitality. The blood can safely take up much more ether if it is in a condition of hyperoxygenation.

6. The fact that no deaths have been reported from the use of this method speaks well for its safety.

Disadvantages.—1. The initial cost of this apparatus is considerable. Its use is somewhat more expensive than the gas-ether or closed methods; it is considerably less, however, than the open method.

2. The portability of apparatus for this method is less convenient.

3. Considerable skill is necessary for its use.

CONCLUSIONS.

The drop method is a very popular one. It is practically safe, while its simplicity makes it the method of choice for the inexperienced. Its shortcomings of perfection have been noted and they are sufficiently important to demand consideration. Modern anesthesia has already reached the stage where refinements of methods are necessary, when skilled anesthetists are available. That a method possesses no serious obstacles is not enough. Modern surgeons and anesthetists demand a method of administering ether which overcomes certain minor and too often neglected objections, which are of more or less importance regarding the safety and pleasantness of ether anesthesia.

It may be ventured that hereafter general anesthesia will not be considered as a whole, but its various stages dealt with according to their obviously different requirements, and that this is to be accomplished by sequences of various anesthetics administered with an apparatus which is both accurate and practical, and by men whose entire time is given to this branch of the profession.

NITROUS OXID ANESTHESIA.

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Surgeons commonly agree that nitrous oxid is the safest general anesthetic known. Bevan estimates the death rate to be one in fifty thousand. Hewitt was able to collect records of seventeen deaths only from 1860 to 1900.

Ethyl chlorid has produced already thirty deaths in Great Britain alone.

Nitrous oxid is used by dentists, who employ it with great facility for the extraction of teeth. Thomas, of Philadelphia, has administered it 271,940 times with only one death, which occurred five hours after the administration, and was due to apoplexy. This case is included in Hewitt's report of seventeen fatalities.

Nitrous oxid has also been employed rather extensively to induce the anesthesia which is maintained later with ether. This method contributes greatly to the comfort of the patient in avoiding the disagreeable sensations of "going under" ether. The Bennett gas-ether inhaler popularized the method, but the plan has not yet come into general use in America. It requires from one to four minutes only for complete anesthesia.

Nitrous oxid is undoubtedly a pleasant, safe and simple anesthetic for use in short minor operations, and were it not for the necessary apparatus it would enjoy a larger field of usefulness among surgeons. Aside from its use in very minor operations, such as slitting up sinuses, removing sutures, opening felons, abscesses and the like, Bevan has recommended that it be employed in short major operations.

Nitrous oxid is prepared commercially in a liquid state under high pressure in steel cylinders. When liberated for administration it is converted into a gaseous form. Each cylinder contains one hundred gallons of the gas, which should be kept in a cool place, because a high temperature causes it to explode. It can be obtained in two hundred and fifty and five hundred gallon cylinders also.

Nitrous oxid was discovered by Priestly in 1772, and its anesthetic properties were first satisfactorily demonstrated by Horace Wells in 1844. In 1868 Edmund Andrews, of Chicago, used it in several cases; he mixed it with air and obtained a longer and more satisfactory form of anesthesia than by nitrous oxid alone.[1]

The anesthesia obtained is not dependent on asphyxia; the gas possesses true and intrinsic anesthetic properties. It is irrespirable beyond a certain point. The surgeon who uses it should wait for stertorous breathing, but stop the administration of the gas when asphyxia appears. Anesthesia is induced in from 50 to 120 seconds, when, unless air is administered, symptoms of asphyxia appear.

The signs of nitrous oxid anesthesia are:

1. Quick, deep and stertorous respiration, slightly irregular.
2. Increased pulse rate.
3. Dilatation of the pupil.
4. Absence of eye reflexes.
5. Fixed eye balls.

The symptoms due to asphyxia are:

1. Cyanosis in varying degrees.
2. Jactitation (from anoxemia).
3. Clonic movements of the extremities.

If but little gas is administered these signs will be less prompt, and a stage of excitement will be marked by rapid movements of the limbs, and a mild talking delirium will supervene, from which circumstance the name of "laughing gas" was applied to the anesthetic. When proportionately too much gas is given, respiration is irregular, quick, and stertorous, the eyeballs are turned upward, with the lids widely open, and the pupils dilated. Cyanosis is then extreme, the pulse thready and rapid. Continuation of this condition, with exclusion of air, causes respiratory failure from muscular spasm, although the heart continues to beat. If the patient stops breathing, a gag should be inserted in his mouth, the tongue drawn forward, and artificial respiration should be done.

Recovery ensues usually in from twenty to sixty seconds after the discontinuance of administration of the gas, and the patient at once becomes conscious. There may be a slight headache and dizziness for a short time, but there is little or no postanesthetic nausea or vomiting. The actual period of anesthesia with a single administration of the gas lasts on an average for thirty seconds only. If, however, air or oxygen be mixed with the gas, or be given alternately with it, the anesthesia can be prolonged indefinitely. The asphyxial discoloration, jerking, and noisy respiration may be prevented almost entirely by the careful employment of this measure.

Claude Lyons gave nitrous oxid mixed with 15 per cent. of oxygen to a dog for three consecutive days. Fifteen minutes after the discontinuation of the anesthesia the animal began to move, was able to stand and walk, obeyed commands after thirty-five minutes, and on the next day was well and hungry. Hewitt found that in sixty consecutive administrations of nitrous oxid the average number of respirations required to produce anesthesia was 29.10. The lowest number was six, and the highest seventy-two.

The time required to produce complete anesthesia is on an average about fifty-six seconds. This is a much lighter anesthesia than chloroform or ether anesthesia, and the patients are not so tranquil or so obliviously unconscious. The advent of stertor, and the slight clonic muscular twitching indicate the beginning of complete anesthesia. The surgeon may begin to operate when stertor occurs. If he begins sooner and while the patient is in an imperfect state of unconsciousness, there may be a great deal of spasm and jerking. The operation should be discontinued if there is marked weakness of the pulse or respiration, or if there be vomiting.

The statement is made that no case of primary failure of the circulation has been observed with the use of nitrous oxid, but in every recorded case of nitrous oxid death there has been marked disturbance of respiration.

The feasibility and efficacy of nitrous oxid anesthesia carried on for some time is of great interest to the surgeon. Kelly[2] has removed the appendix several times "under gas," and reports one case of chronic nephritis, with albumin, of thirty years duration, for which he operated with the use of nitrous oxid. The operation lasted one hour and six minutes with complete unconsciousness of the patient. The issue was successful, and there was no untoward effect, except that the patient slept almost continuously for the first week subsequently.

There have been no deaths reported from the administration of nitrous oxid and oxygen. In favorable subjects normal sleep is closely imitated.

There are many forms of apparatus by which nitrous oxid can be administrated with air or oxygen. Bennett's gas inhaler, Hewitt's apparatus, Herbert Paterson's in England, and those manufactured by Clark, of Chicago, and by the S. S. White Dental Company, are the ones usually employed. Directions for the employment of each accompany the apparatus. It is best to administer the gas and air at first concurrently, rather than alternately. Hewitt states that 14 to 18 per cent. of air is the most suitable mixture for men, and 18 to 22 per cent. of air for women and children. With over 30 per cent. of air anesthesia can not be produced. As a matter of actual experience, the question is simply one of keeping the patient sufficiently anesthetized with enough air to prevent asphyxia. A moderately snoring, regular respiration, with slight duskiness of the countenance must be maintained. The air can be administered with the gas or one may change to pure gas as occasion demands.

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[1] Brit. Jour. Dent. Sc., 1869, p. 22.

[2] Diseases of the Vermiform Appendix, p. 517.

The occasional endeavor has been made in this country during the last third of a century to use nitrous oxid in surgical operations, but the profession have not gotten further than to employ it in short operations requiring from one to ten minutes, for those cases in which ether or chloroform are contraindicated. Bevan[3] urged its employment on account of its greater safety, absence from unpleasant symptoms, the little or no resulting nausea, and for its rapidity of action. He claims that it is the anesthetic of choice for the reduction of fractures and dislocations; for the opening of felons; for breaking up adhesions in joints; for draining empyemas and lung abscesses; for exploratory laparotomies and gall bladder work; for nephrotomy, nephrectomy, and nephrolithotomy; for bladder work such as suprapubic cystotomy for stone, and suprapubic prostatectomy; for draining appendiceal abscesses; for colostomy, gastrostomy, and enterostomy; for the repair of typhoid perforations and for gastric and duodenal ulcers; in hernia operations, especially for the relief of strangulated hernia, for varicocele, and open operations for hydrocele; in castrations; in amputations, except at the largest joints; and in removing such growths as fatty tumors. It was used seventy-seven times at the Presbyterian Hospital in Chicago from Oct. 1, 1907, to May 1, 1908, as against 214 ether administrations. He says further that it can not well be employed in operations on the perineum, such as for hemorrhoids, because when so anesthetized the patient has a tendency to straighten out his limbs. When there is complete muscular relaxation, the surgeon must view calmly the livid color of the patient's face, the dark blood in the wound, and the occasional talking and moving of the patient.

Nitrous oxid can be employed in operations lasting for from thirty minutes to an hour, and has been administered for as long as two hours. It can be employed with advantage in about one-third of all our surgical work. It should be given with the patient in the position requisite for the operation, i.e., Sims, lithotomy, etc., after the field of operation has been prepared and everything has been made ready for the incision. If the patient has a heavy beard, the oval under the face-piece of the inhaler should be covered with several layers of moist gauze, that the mask may fit closely enough to exclude air at that point.

The advantages of nitrous oxid as an anesthetic are:

1. Quickness of action.
2. Absence of uncomfortable sensations to the patient.
3. Almost immediate recovery.
4. Absence of lung complications.
5. Absence of danger to the kidneys.
6. Abscess of postanesthetic vomiting.
7. Improbability of subsequent fatty degeneration of the kidneys, liver and heart. It is to be preferred especially when there is a disease of those three great organs, and for the patients who have previously had unpleasant experiences with the other anesthetics—such experiences as aggravated postoperative vomiting.

Nitrous oxid should be administered by an expert anesthetist only.

The disadvantages of nitrous oxid as an anesthetic are:

1. It is not suitable for fat, plethoric and alcoholic patients.
2. Its zone of anesthesia is within somewhat narrow limits.
3. Slight lividity and occasional talking occur.
4. We can not always secure the requisite skill for its successful administration, nor the required quantity of gas, and the proper apparatus.
5. The cost is not inconsiderable.

From one to two cylinders of one hundred gallons each are needed for an hour's administration.

Contraindications for its use are:

1. It should not be employed for patients with dilated hearts or for those with extremely bad hearts, whether with valvular or myocardial disease.
2. It is not suitable for young children on account of their fear of the mask, etc.
3. It should not be used in case of narrow or abnormal air passages, of enlarged lymph nodes, goiters, or enlarged tonsils and adenoids.

I have employed nitrous oxid with air as an anesthetic twenty-six times from May 15 to August 15. The list of operations comprises minor operations lasting from four to fifteen minutes, and in three major operations: recurrent appendicitis, a 40-pound ovarian cyst, and a suprapubic cystotomy for stone in a man 80 years of age. The duration of the anesthesia in these three cases was ten, fourteen and twenty-five minutes, respectively. The induction is painless and prompt, the recovery almost synchronous with the withdrawal of the mask. The patients leave the operating room, conscious, and in smiling contrast to the narcosis of other general anesthetics.

CHLOROFORM ANESTHESIA.

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Since the introduction of chloroform by Sir James Y. Simpson, in 1864, it has remained one of the most important anesthetics. Following the historic death of Hannah Greer, there have been many other deaths which indicate the danger of this drug. It is still, however, the anesthetic of choice in Scotland, in parts of England, and on the continent of Europe. For general surgical practice, however, the experience of the last fifty years has shown ether to be much safer, and it is the routine anesthetic employed by surgeons in America. Chloroform, unfortunately, is still used by many for minor surgical work, because of its ease of administration and its rapid action. Healthy obstetric patients take choloroform in small quantities and intermittently with safety, and this fact has begotten an impression that it is safe also in continuous administration for surgical operations, undertaken for the cure of pathologic conditions. Unfortunately, the majority of anesthetics are given by persons who are not skilled anesthetists. Indeed, Hewitt says that the risks of general anesthesia are neither in the patient nor in the anesthetic, but in the anesthetist. This is an important fact in the problem of anesthesia. Deaths from chloroform are from simple over-dosage, in the great majority of instances. Chloroform is so insidious, it acts so rapidly, and kills so quickly in the very beginning of its administration, that there is little time for the patient's resuscitation. Ether being slow in its action and in the production of dangerous symptoms gives ample opportunity for their recognition and for efforts at resuscitation.

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[3] The Journal A. M. A., 1907, xlix, 137.

Out of the whole chloroform and ether controversy there comes the knowledge that for general work ether is approximately five times as safe as chloroform. Even if chloroform, in the hands of an expert, can be rendered free from many of its dangers, ether can be rendered more safe by scientific administration. There are some conditions, however, in which we recommend chloroform on account of its special properties:

1. In the treatment of certain convulsive seizures.
2. In obstetrical practice.
3. In the presence of kidney lesions.
4. In elderly persons, with dyspnea.
5. In operations on the brain it is preferred by some experienced surgeons.
6. In obstructed conditions of the trachea, esophagus, and larynx.
7. In deep cellulitis of the neck.

Chloroform is particularly to be avoided:

1. In all conditions of heart weakness.
2. In all operations requiring the semi-recumbent or sitting posture, particularly in operations of a dental nature.
3. In minor surgical operations.

Physiology.—Chloroform is taken up mainly by the red blood corpuscles, and is said by Moore and Roaf[1] to form unstable and dissociable compounds with the protoplasm of the blood and tissues.

1. It is a cardiac depressant acting on the inhibitory mechanism of the heart and producing syncope from dilatation of the capillaries through the vasomotor system.

In fatal syncope the dilatation of the capillaries is so marked that a large proportion of the blood leaves the brain and great organs, and the patient is bled to death in his own capillaries. Chloroform inhibits the heart muscle also through the coronary arteries.

It has been proved that when a diluted concentration of chloroform is allowed to perfuse the tissues of an isolated heart, the contractions of that organ will be diminished, and that when the concentration of chloroform is great, the heart stops. Sherrington and Sowton[2] have shown through animal experimentation, when the heart beat is pressed to extinction by chloroform, that after one-half hour the beat can be re-established in a few seconds by allowing fresh blood instead of the chloroform-laden fluid to flow through the coronary vessels.

The prolonged action of chloroform-laden blood results in paralysis of the respiratory center. Indeed, failure of respiration has usually been assigned as the first danger of chloroform, and, second, failure of the heart.

2. Cases in which cardiac failure apparently occurred first, as manifested by cyanosis while gasping still continued, have been reported. Sir Lauder Brunton thinks respiratory paralysis occurs first, and the Hyderabad Commission reported that respiratory shock seemed to be primary, and cardiac paralysis secondary. Much controversy has arisen among physiologists over this point, and many facts adduced show that the failure of the heart is the real danger, while Hewitt thinks that the modern consensus of opinion establishes the heart paralysis as the chief event. In all cases there is a considerable fall in the blood pressure.

Death is stated to occur from vagus excitability (Embley). This is illustrated in the so-called "fright syncope," which sometimes occurs when the first operative incision is made before the patient is completely unconscious. We conclude that all of the accidents of chloroform are due to over-dosage. That this is so is shown by laboratory experiments. It is a notorious fact that clinically the majority of deaths from chloroform occur in the early stages of anesthesia, and after a "few drops have been sprinkled on the cloth." Such deaths usually occur in the first or so-called stage of excitement. During the struggles of the patient he holds his breath, the pulmonary blood pressure is consequently raised, and the venous system is congested. If the anesthetist continues the administration in an effort to "get the patient under," suddenly a deep inspiration carries a densely concentrated vapor to the lungs. Blood loaded with chloroform enters the coronary arteries and causes instantaneous paralysis of the heart muscle. This explains the sudden deaths. A semi-recumbent or upright position facilitates this action of chloroform, and has doubtless contributed to the chloroform deaths that have occurred in dentists' chairs.

The only accidental chloroform death of an animal which occurred in Professor Waller's laboratory[3] took place when, the animal being anesthetized and ready for the experiment, the operator was called away for a more urgent matter. The animal began to come out from the anesthesia, and was re-anesthetized by a few drops of chloroform on a cloth, which caused a sudden arrest of the heart and respiration. Artificial respiration failed to restore it. This incident corresponds with the experience so dreaded by the surgeon.

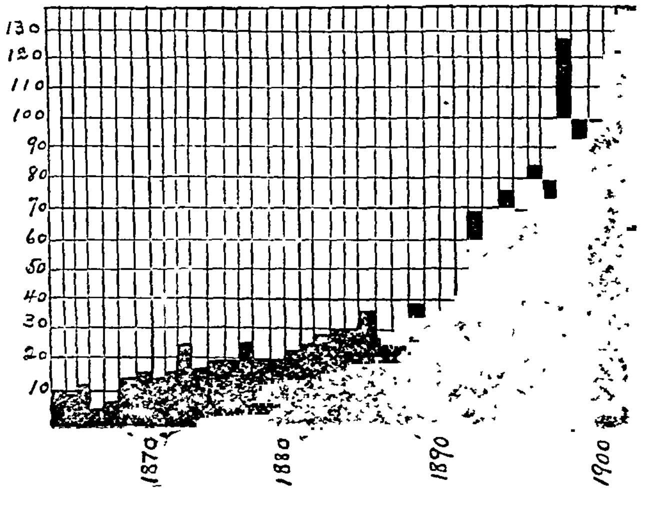

Diagram of the annual number of deaths from anesthetics in England in the years 1863 to 1901. Constructed from the returns of the Registrar General. From the London *Lancet*.

Advantage was taken of the accident. By the aid of a densimeter the procedure was imitated with another dog, the experimenter using the same piece of cloth with chloroform sprinkled on it in about the same quantity, wrapped around the animal's head, as when its fellow was fatally anesthetized. The percentage of chloroform vapor in the fatal case was found to be 11.2. The second and harmless trial with the cloth showed a percentage of 2.4.

A third experiment, in which the cloth was held away a considerable distance, gave a percentage of 1.2; so that it was demonstrated that the Edinburgh method of "plenty of chloroform with plenty of air" is safe, because the mask is held so far from the patient's face that practically only a 2 per cent. vapor is inhaled. A closely fitting mask, therefore, should not be used, even if the drug is given only drop by drop.

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[1] Proc. Roy. Soc., lxxiii, 382.

[2] Id., lxxii, 86.

[3] Lancet, Lond., 1903, p. 1484.

Preparation.—The preparation for the administration of chloroform is identical with that for ether, and may be summarized as follows:

1. Make a careful physical examination with special reference to the lungs, the kidneys, and the heart. In the urinary examination include tests for acetone and diacetic acid. Empty the stomach, bowels and bladder.
2. The mouth should be cleared of artificial teeth or any other foreign substance.
3. The teeth should be carefully cleaned, and the mouth and throat rinsed by some aromatic antiseptic solution. Many cases of aspiration pneumonia come from oral sepsis.
4. The nose should be cleansed by blowing and by insufflation.
5. The clothing should be loosened about the throat and waist.
6. *The administration should invariably be made with* the patient in the recumbent posture.
7. Tongue-forceps, mouth-gag, hypodermic syringe, stimulants, adrenalin solution, and an infusion canula and saline solution should be at hand.
8. The anesthetic is preferably administered with the patient on the operating table. Deaths have been reported at the moment of lifting the patient on to the table.[4]

It is desirable and convenient to prepare the field of operation while the patient is taking the anesthetic, as this distracts his attention and saves his taking the additional amount of anesthetic necessary to cover the period of cleansing the field after unconsciousness has been established. The patient should be well wrapped in blankets, care being exercised that no chilling occurs. It is convenient for the anesthetist at the conclusion of the operation to complete his notes of the anesthetization on slips which should be filed for permanent record.

Chloroform should be kept in small brown bottles, tightly corked and in a cool place. It should not be used in a room in which there is an open flame, as hydrochloric acid is given off into the atmosphere, which greatly irritates the respiratory tracts of persons in the room.

Administration.—Vaselin or lanolin should be applied to the patient's face to prevent the contact of the drug and consequent blistering of the skin. An Esmarch's inhaler or a Skinner's mask are the most convenient and useful forms of apparatus for the simple uncomplicated administration of chloroform. The mask should be covered with a layer of flannel. Close fabrics result in less concentration of vapor than open-meshed fabrics, and in a less-uniformly sustained concentration. Legge Symes found that the chloroform drawn from under Skinner's mask showed the proper concentration and was more certain and uniformly sustained by the drop method than by the douche. A fall in frequency and depth of the patient's respirations may lead to inhalation of dangerously concentrated vapor, even when the amount of chloroform is apparently not excessive.[5]

The drug may be administered from a drop bottle or wicked out in drops with a wisp of cotton in a slit in the cork of the original bottle. Anderson suggests that a small aspirating needle be inserted through the cork, the obturator withdrawn and the drug dropped therefrom. Waller estimates that an average anesthetization should be induced in ten minutes, with less than a drachm of chloroform.

The administration should begin with the mask held five inches from the face and the evaporating plane, and should never be closer than two inches. The drug should be delivered drop by drop, approximately one drop with each inspiration. Syme found experimentally that 66 drops per minute (equalling 1 c.c.), diluted in 350 c.c. of air aspirated on an average of 20 aspirations per minute, give a vapor of 1.4 per cent. concentration. This is about the proper concentration with which to begin, as advised by the chloroform commission appointed by the British Medical Association in 1904. Waller estimates that the normal maximum concentration compatible with the effective induction of anesthesia, with freedom from unjustifiable danger, is 2 per cent.

At the outset, the patient should be reassured and instructed to breathe naturally. At the stage of excitement, which may appear in from three to six minutes, care should be exercised that too much chloroform is not given when respiration is checked. If the patient begins to struggle, the chloroform should not be pushed as with ether, but should be discontinued immediately and fresh air administered. It is in struggling that the breath is held and the absorption of chloroform already in the lungs occurs, while with the next full inhalation an overdose is frequently obtained unless the administration is temporarily suspended while the patient is not breathing.

After the stage of excitement is over the drop is continued with just enough frequency to keep the patient in a tranquil state of anesthetization. The sluggish, mobile, contracted pupil is said by Hewitt to be the desirable and safe guide by which to judge the patient's condition. Roughly speaking, a moist spot on the flannel the size of a 25 cent piece is said to be about the proper amount of chloroform to exhibit. The angle of the jaw can be held gently forward by the anesthetist, especially if there is any interference with free air passage. The temporal or facial pulse can be felt with the fingers of the hand which holds the mask over the face.

Syme's rule, "watch the respiration," is imperative. If a beginner will rivet his attention on the breathing and note its slightest alteration as the first danger signal, he will do better than by attempting to observe the many things which he is often admonished to notice. Observation of the color of the lips and of the pupils will soon become a part of the general mental vigilance which he keeps over his patient. A patient with rosy cheeks or lips is in no danger.

It is imperative for the anesthetist to watch, first, the respiration; second, the reflexes; third, the circulation; always the patient, but never the operation.

Signs of Surgical Anesthesia:

1. Regular, rhythmic, slightly stertorous, and somewhat increased respiration.
2. Contracted pupil.
3. Slow, even, and rather full pulse.
4. Absence of eye reflexes.
5. Relaxation of the muscular system.

Signs of "Coming Out:"

1. Return of pupillary reaction.
2. Conjunctival and corneal reflexes.

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[4] Lancet, Lond., Sept. 17, 1904, p. 842.

[5] Lancet, Lond., July 4, 1904, p. 82.

3. Swallowing.
4. Attempts at retching and vomiting.
5. Shallow, non-stertorous and slow respiration.

Danger Signals:

1. Sudden pupillary dilatation.
2. Weak, thready pulse.
3. Short, irregular, gasping respiration.
4. Sudden pallor, or slight duskiness merging into cyanosis.
5. Cessation of breathing.
6. Intermittent pulse.
7. Stopping of the heart.

Resuscitation:

1. Remove the mask.
2. Lower the head. If dealing with a child, invert and suspend him by the heels; if with an adult, employ the extreme Trendelenburg position.
3. Open the mouth with a gag.
4. Seize the tongue and pull it forward.
5. Inject one or two c.c. of adrenalin (1-1,000), with salt solution, through a canula into an artery, toward the heart.
6. Employ Sylvester's method of artificial respiration, systematically performed, and kept up unremittingly for at least thirty minutes.

The latter is the most desirable and most generally applicable of all methods to resuscitate in chloroform syncope. The arms of the patient, grasped at his elbows, should be compressed firmly against his lateral chest walls, and then drawn back to full extension for inspiration; then, slowly, they should be pushed down, recompressing the chest. This cycle of respiration should simulate exactly normal respiration; the work should not be performed frantically, or with greater rapidity than to induce eighteen respirations per minute. Cases have been reported in which recovery ensued after one and one-half hours of artificial respiration. In one instance there was no sign of life for fifty-five minutes.[6]

Unfortunately, chloroform collapse is beyond the help of the so-called heart stimulants. Hypodermics are valueless, and their repeated and frenzied administration should be discouraged. One hypodermic of strychnin is, perhaps, all that is permissible, and certainly all that is of value.

Some interesting studies in experimental resuscitation have been made by Crile and Dolley.[7] By cardiac massage alone animals were rarely resuscitated at any time after quiescence of the circulation and respiration; by combining either direct or indirect cardiac massage with artificial respiration and head downward posture a certain percentage of the animals were recovered after the lapse of from one to three minutes. The results, however, were quite uncertain, and in the case of death from chloroform, recovery was the exception. . . . In the majority of these failures autopsy showed the heart to be in a state of marked distention indicating complete cardiac paralysis. . . . Not infrequently, when results were delayed, the acute cardiac dilatation was partly reduced by venesection, and by placing the dog in the inclined, head-up posture, thereby partly relieving the heart of its over-distention.

It was believed that by clinically raising the coronary pressure which inaugurates the heart-beat, as has been proved by Sollmann and others, resuscitation could be effected, just as when the excised heart has been experimentally made to beat again. Crile had already established the value of adrenalin in raising the blood pressure. It acts on the vascular walls of the blood vessels themselves. If, however, it was introduced in the venous circulation, the heart could not be influenced, and, in fact, the blood pressure could not be quickly increased, because the adrenalin had to traverse the right heart and the lungs before reaching the left side of the heart whence it went into the coronary arteries through the aorta. As a mater of fact, there is an accumulation of adrenalin solution in the dilated and paralyzed heart, and for this there is no succor. In Crile's later experience, therefore, the solution of adrenalin in salt solution was injected into the artery toward the heart, and at once it increased arterial pressure.

The conclusions which he drew from these experiments for the purpose of this study are as follows: Animals, after death from chloroform, up to five minutes are uniformly and readily resuscitated, provided the full technic be applied—1 or 2 c.c. of 1 to 1,000 adrenalin solution injected by the hypodermic syringe into the rubber tubing of the transfusion apparatus while the salt solution is flowing through a canula into an artery, and directed toward the heart. The carotid is preferred in animal experimentation, but with human beings any artery (the radial) may be selected. Up to ten minutes, in animal experiments, there is an occasional failure to resuscitate; beyond ten minutes consciousness is rarely restored, and the success of efforts at resuscitation diminishes with the lapse of time; after twenty-three minutes in adult dogs and thirty-five minutes in puppies complete return of the circulation is not accomplished. Attempts at resuscitation, if successful, occur within one minute after the administration of adrenalin in the majority of instances; it rarely occurs after an interval greater than three minutes.

In view of these experiments every operating room in which chloroform is administered should be equipped with the paraphernalia for the use of adrenalin and salt infusion.

Crile advises against open cardiac massage, which induces cardiac trauma. Massage of the motionless heart through the diaphragm, when operating in the abdomen, has been recommended in order to express the chloroform-impregnated blood. Dobson has deliberately opened the abdomen for this purpose, and successfully in a child in syncope.[8]

Percentages.—Perhaps the most intelligent addition to our knowledge of chloroform, aside from the very elaborate physiologic experiments which have been made in the last few years—and possibly as a direct outcome of these, has been the determination of the exact percentages of chloroform vapor in the dosage, and the invention of apparatus for the regulation of that dose. It is more essential to measure the dose of chloroform precisely than of any other anesthetic. While we have been estimating it roughly and empirically for half a century, only in the last four years have we succeeded in perfecting our measurements.

Snow, in 1849, employed an inhaler computed to supply a vapor of 5 per cent. at 60 F. Clover's inhaler was made on a similar principle. Junker devised an apparatus which had the same purpose in view. His apparatus has been modified by Krohne, as well as by Hewitt, and is the simplest of the percentage devices. Physiologists find that animals can be kept completely anesthetized for twelve hours under a bell jar connected with the Dubois pump, which delivers a 2 per cent. chloroform vapor. Waller says he never lost an animal in the laboratory when using this method. The importance of the actual arithmetical percentage, its recognition and conception in figures, is shown by the experiment of an animal completely and safely anesthetized in four minutes with a 3 per cent. chloroform vapor, and the same animal subsequently killed by a three minute anesthetization with 13.2 per cent. vapor.[9]

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[6] Lancet, Lond., May 16, 1903, p. 1367; also Brit. Med. Jour., June 20, 1903.

[7] Jour. Exper. Med., viii, No. 6, Dec. 21, 1906.

[8] Lancet, Lond., Nov. 30, 1907, p. 1537.

Deaths that still occur must be ascribed to ignorance of the toxicity of the drug and the exact amount which is necessary to anesthesia. We have hitherto been unable to compute how much in excess of that necessary amount the patient is really getting. Our great danger is in cramming the towel or inhaler close down over the patient. This crowding is shown to give a 10 per cent. chloroform vapor and upward, which is five times the limit of safety.

In 1904 Vernon Harcourt devised an apparatus which seems to be a perfect regulator. Collingwood, Levy and Waller, in working along the same lines, made similar chloroform inhalers in 1904. Levy claims to do away with the objection which has been urged against Harcourt's apparatus (that shaking the apparatus greatly increases the vapor) by fixing his apparatus rigidly to the table. He also claims to prevent fluctuation in the strength of the vapor caused by variation in the character of respiration.

Dubois' apparatus establishes a continuous flow of air containing chloroform vapor of 1.2, 1.6 and 2 per cent. independent of any suction effort on the part of the patient. Dubois' apparatus is worked by turning the handle six times a minute, when each revolution delivers four liters of the chloroform and air mixture. Waller devised a wick-vaporizer energized by a foot-bellows for the same purpose. This is accurate, simple and satisfactory.

All of these devices are unquestionably on the right lines, and while many practical objections have been urged against them, they are unquestionably correct theoretically. They are not intended to do away with the skill of the anesthetist. Most of them allow the vapor to be increased to 4 per cent. Critics have objected that it requires about ten minutes thus to induce anesthesia, but this should not be a serious objection. If chloroform vapor, in clinically estimated and varying percentages, is safe in the hands of an expert, an accurate percentage is certainly no less safe. Conversely an automatically regulated percentage with which it is well-nigh impossible to produce over-dosage, is certainly less dangerous when combined with skilled employment.

The objection to the Dubois apparatus is its cost and weight, and the fact that it requires two persons to use it. We hope that some simple form of apparatus, if it has not already been devised, may be produced. Such an apparatus would render anesthesia an exact science, as well as an art.

Hepatic Toxemia.—A. D. Bevan and H. B. Favill have shown[10] that cases of late death after operations under chloroform, formerly ascribed to late shock, sepsis, uremia, fat embolism, meningitis, etc., developing in from ten to one hundred and fifty hours, with vomiting, restlessness, delirium, convulsions, coma, Cheyne-Stokes respiration, cyanosis and icterus, are due to hepatic toxemia. This is caused by the destruction by chloroform (by ether in a slight degree only) of the liver cells especially, as well as other structures. The toxemia is in direct proportion to the quantity and duration of the anesthetic.

The predisposing causes are alcohol, lead, carbolic acid, mercurial and iodoform intoxications, homesickness, fright, change of food, intestinal fermentation and putrefaction, infantile paralysis, starvation, sepsis, pregnancy in the presence of a dead fetus, a gangrenous mass, diabetes, carcinoma, anemic changes from any cause, and hemorrhage. In mild cases of toxemia, with jaundice which is only evanescent in character, the patients recover.

The poisoning is due undoubtedly to liver insufficiency; toxins develop therefore. The condition is similar to that of phosphorous poisoning. There is an acute fatty degeneration of the liver and as by-products there are acetone and diacetic acid in the urine. The danger of this hepatic toxemia renders chloroform hazardous in the presence of diabetes, sepsis, starvation, hemorrhage, intoxication from dead material, fatty degeneration after infantile paralysis, and lesions of the liver. Bevan and Favill condemn chloroform, especially in long (two hour) operations on children.

Brackett reported a series of fatal cases of acetonuria after operations. The symptoms were sweetish breath, vomiting, weak and rapid pulse, exceedingly high temperature, delirium and death. Some cases without operation, with mild symptoms of acetonuria, recover. Many cases with sweet odor of the breath, vomiting, prostration, and recovery were noted. Of the fatal cases necropsy showed fatty degeneration of the liver, kidneys and muscles. Guthrie[11] reported nine cases of death from chloroform in children with fatty livers, which he thought due to acid intoxication. Bicarbonate of soda seems valuable in this acidosis. McArthur, of Melbourne, advises the examination of the urine for diacetic acid and acetone, as a routine measure, both before and after the use of chloroform.

RECOMMENDATIONS.

1. Further investigation in physiologic laboratories of the action and safe dosage of chloroform.
2. Further experimentation in the perfection of an apparatus for the dosimetric administration of chloroform.
3. That in all hospitals a member of the staff be appointed as the head of the anesthesia department, who should personally supervise the administration of anesthetics, as far as possible, and be responsible for the instruction of those to whom their administration is entrusted.
4. Tutelage of undergraduate students in the practical administration of all anesthetics.

LOCAL ANESTHESIA.

EXTENT TO WHICH LOCAL ANESTHESIA HAS BEEN ADOPTED IN AMERICA.

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Except for strictly minor operations, the use of local anesthesia in America is limited to a few clinics, though its adoption abroad is far more general. This limitation may be due, in part, to American hurry, but more probably to inexperience in the method and a certain deep-rooted fear of poisoning, traceable to the days of strong cocain solutions.

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[9] Trans. Soc. of Anesthetists, v., p. 82.

[10] The Journal A. M. A., Sept. 2, 1905, p. 694.

[11] Lancet, Lond., July 4, 1903.

To those surgeons who have persisted in its use and have become familiar with the technic its field is constantly broadening. In the clinics of Matas in New Orleans, of Crile in Cleveland and in a few other places local anesthesia is employed extensively. Bodine of New York reports the use of local anesthesia for all hernia operations, amounting to many hundreds in the last few years. From numerous places come reports of its satisfactory application in rectal work and in operations on the nose and throat. In my own practice its use is increasing with experience, and at the present time fully 50 per cent. of my operations are done without the aid of general anesthesia. This increase in its use is attributed to familiarity with the methods of application.

ADVANTAGES AND DISADVANTAGES.

Danger to life, as far as the anesthetic is concerned, is practically not to be considered. Postoperative renal and pulmonary complications are reduced to a minimum, as well as its disagreeable features are eliminated.

It can not be denied that pulmonary complications may occur. In the experience of the writer, however, these have never been encountered. Postoperative depression and the consequent danger of shock is less, so that age and lesions of the heart or kidneys do not have and the small but certain danger of general narcosis, the same importance as determining factors in the prevention or delaying of operations. The necessarily careful handling of tissues is an additional factor in securing rapid healing and in the prevention of infection. In general, the great amount of time necessary for operations under local anesthesia, and its employment in certain regions of the body only, represent its limitations.

SCOPE.

In minor procedures its application is unchallenged, and such small operations, as the opening of abscesses, or the amputation of fingers, toes, etc., so often done without anesthesia, may be rendered painless by a small amount of cocain properly placed. In general, when the field of operation can be rendered insensitive, local anesthesia may be used. Practically all amputations in the course of limbs may be accomplished, and in many regions the wiring of fractures or the removal of diseased bone may be painlessly done. In the abdomen, as an aid to exploration, it is quite satisfactory, and has accomplished a great deal in diminishing our fear of opening the abdomen in such conditions as typhoid perforation. For operating on organs in apposition with the abdominal wall, and requiring little retraction, local anesthesia is sufficient.

The removal of the appendix in the interval is usually an easy and painless procedure in the absence of adhesions. Its usefulness in the abdomen is limited by the amount of retraction and dragging on the parietal peritoneum necessary for the accomplishment of the desired operative procedure. All forms of hernia are amenable to its use. In no case of inguinal hernia is a general anesthetic necessary, and with strangulation, local anesthesia is almost imperative. All operations about the scrotal and inguinal regions can be done with absolute freedom from pain. The character of the patient is a small factor. Children are necessarily difficult subjects, but with experience the "nervous patient" as a contraindication has practically disappeared. In extensive dissection for malignant disease, local anesthesia should not be considered.

ANESTHETIZING SUBSTANCES AND THEIR PREPARATION.

Since the introduction of cocain, in 1884, numerous local anesthetics have been brought forward. While in individual clinics many of these are still in use, cocain and eucain β alone have held general favor. It seems to me that the danger of poisoning from cocain has been greatly over-rated, and with the adoption of adrenalin and the use of weak solutions, fear of poisoning scarcely deserves consideration. The advantages claimed for eucain are that it is only one-fourth as toxic as cocain, and that its solutions stand boiling. Its disadvantages are that anesthesia is obtained by it more slowly and does not last as long as that from cocain. After an extensive use of cocain I have no fault to find with it, and I consider it, with proper precautions, the most satisfactory of all local anesthetics.

PREPARATION OF SOLUTIONS.

The solution for injection should fill the following conditions: (a) It should be isotonic with the fluid of the body tissues; (b) it should be sterile; (c) it should contain a definite amount of the anesthetizing substance; (d) it should be so constituted as to obtain the greatest action with the least danger of absorption.

Such a solution is most conveniently prepared by the use of tablets, containing cocain hydrochlorate 0.05 gm. and adrenalin 0.00016 gm. These tablets are sterilized in dry heat at 80 C. for an hour on each of three successive days, and are dissolved in sterile normal salt solution immediately before the operation. A fresh solution, isotonic with the blood, is thus obtained, containing a definite amount of cocain, while through its adrenalin content it limits absorption. One tablet dissolved in 50 c.c. of salt solution yields a 1:1000 solution of cocain, and one tablet in 5 c.c. makes a 1 per cent. solution. These solutions may be diluted for special use by the addition of salt solution. These tablets are in the American market and have proved most satisfactory to me. I offer them as the most satisfactory vehicle for the preparation of solutions for local anesthesia.

TECHNIC.

Success with local anesthesia depends largely on experience and practice, as well as on the patience of the operator; but especially on his minute knowledge of sensory nerve distribution, so that he may surely make the application where it will do the most good, with the avoidance of painful manipulations.

The methods of application, briefly, are: (1) Surface applications; (2) infiltration; (3) nerve blocking through endoneural and perineural injections. Each of these has its special applications, or all of them may be combined in one operation.

In addition to the purely local methods the combination of local with general anesthesia forms a most important addition to our anesthetizing methods.

In the general technic and preparation I wish to emphasize the importance of the mental attitude of the patient, obtained by a small preliminary dose of morphia; the mutual confidence between patient and surgeon; the quiet conduct of the operating room; the avoidance of haste, and the careful handling of tissues on the part of the surgeon.

In regard to the methods of injection, the operator's individual choice is the best criterion. In my own work the small hypodermic syringe has been sufficient. Other surgeons prefer larger syringes, and more complicated needles. For the accomplishment of massive infiltration, the pressure apparatus of Matas has proved most satisfactory. It has been found by experience that very weak solutions of cocain, combined with adrenalin, will accomplish with *a minimum of danger all that can be* obtained by the use of stronger solutions. For nerve blocking a 0.5 to 1 per cent. solution of cocain is quite strong enough. For ordinary infiltration a 1 to 1,000 solution of cocain suffices, and for massive infiltration a 1 to 3,000 solution of cocain is ample. Eucain solutions may be of practically the same strength.

CONCLUSIONS.

1. Whereas I do not submit local anesthesia as a substitute for general anesthesia, I do believe it has a definite field of usefulness, and that this field may be increased by familiarity with modern methods and experience in their use.

2. Whereas the danger of general narcosis may be small under the best *conditions, that from local anesthesia is always less.*

3. Whereas in individual hands one or other of the newer anesthetics may possess certain advantages, cocain and eucain have proved most satisfactory in the long run.

4. The danger of poisoning has been practically eliminated by the use of weak solutions in combination with adrenalin.

5. The methods of application may be classified as: (a) Surface application; (b) *infiltration*; (c) nerve blocking by endoneural and perineural injections; (d) these methods used singly or in combination, or any or all of them combined with more or less general anesthesia.

6. Success depends on the temperament and patience of the operator, his familiarity with sensory nerve distribution and his experience in the use of local methods.

SPECIAL METHODS OF ANESTHESIA.

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In certain operations the selection of the anesthetic agents and the method of their administration is of such importance that the success of the operation may be said to depend on the way in which the anesthesia is conducted. This is particularly true in operations about the head and neck in which, in order to do his best work the surgeon should have a clear field and be interfered with as little as possible by the anesthetist.

This statement holds true, also, of operations on the thoracic cavity, empyema or abscess of the lung; in operations on the kidney, with or without an existing nephritis; in certain grave abdominal operations, *especially* in those with peritonitis and vomiting; and in bladder and prostate operations on old men.

In such cases the anesthetist should always see his patient the day before operation, and after a careful examination (to study especially the breathing) should determine what agents and methods he is to use. Besides being governed in his selection by the ordinary considerations of sex, age, temperament, condition of lungs, heart and kidneys, he must plan the anesthesia so as to interfere with the surgeon as little as necessary, and help him as much as possible.

OPERATIONS ON THE HEAD AND NECK.

This is a broad field and includes: brain operations, eye and ear operations, nose and throat operations (including the antrum and frontal sinus), resection of the lower jaw, extirpation of the tongue, extirpation of goiters, removal of enlarged lymph nodes, operations on the larynx, esophagus, etc.

Generally speaking, it is important in all these operations (except in cerebral operations), to administer relatively large doses of morphin and atropin half an hour or twenty minutes before the operation. These doses should be as large as possible: for women, morphin, 1/6 to 1/4 gr., atropin 1/50 to 1/100 gr.; for men, morphin 1/4 to 1/2 gr., atropin 1/100 gr., will not usually be found too large. This is particularly important if we are depending on simple inhalation anesthesia, because morphin intensifies and prolongs in a marked degree the anesthetic action of either chloroform or ether, so that after anesthesia is complete patients will often remain in a condition to continue the operation in twenty or thirty minutes after the removal of the inhaler.

If rectal anesthesia is used the morphin and atropin may be omitted or administered in smaller doses, according to the patient's characteristics.

The methods which may be used for anesthetizing in operations on the head and neck are: 1. Simple inhalation anesthesia. 2. Anesthesia by Greene's thermo-ether inhaler. 3. Scopolamin-morphin anesthesia. 4. Rectal anesthesia. 5. *Crile's intubation of* the pharynx.

1. Simple *inhalation anesthesia by ether, chloroform,* or mixtures of the two is still preferred for these operations by many surgeons. If the patient is well narcotized at *first by morphin and atropin, and then deeply* etherized, a *very long available anesthesia*[1] can often be produced. It is not uncommon to obtain an available anesthesia of from ten to thirty minutes and even longer. When the available anesthesia has passed, from five to eight *minutes is usually ample time in which again to* put the patient deeply under the *anesthetic.*

The disadvantages of this method are, (1) that available anesthesia varies a great deal in different patients and may be too short to be of any use, and (2) that by *the deep anesthesia produced* by both morphin and ether, dangerous respiratory depression may result.

SCOPOLAMIN-MORPHIN ANESTHESIA.

3. Scopolamin-morphin anesthesia may be employed in certain cases. The method consists in giving 1 mg. of scopolamin, and 25 mg. of morphin, divided into three equal doses, which are administered two and one-half, one and one-half and one-half hour before the operation, which is to begin one-half hour after the last dose.

In major surgery reported results seem to show that often it is dangerous and sometimes not successful—inhalation anesthesia *often* having to be used to keep the patient quiet enough to operate on him.

Recovery from the anesthesia is usually long delayed, and the method has obvious disadvantages. *By this* method we seem to be deliberately over-dosing patients, with very dangerous drugs; and although it might be justifiable to use it in certain hopeless cases of extensive cancer, it should not be the method of choice in ordinary cases. In a series of 92 cases, Ries reports *three deaths.*[2]

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[1] Available anesthesia is the working anesthesia that ensues after the inhalation is stopped.

[2] Ann. Surg., 1905, xliii, 193.

RECTAL ANESTHESIA.

4. The improved technic and good results of Cunningham of Boston, and Brewer of New York show this form of anesthesia to be safer than at first was supposed. In carefully prepared patients and with a gradual administration through a suitable apparatus, very good results can be obtained, and it is, of course, an ideal form of anesthesia for all head and neck operations. The earlier experimenters worked, often, on unprepared patients, and with faulty technic, having their ether too much heated. As a result collapse and bloody diarrhea sometimes followed. Brewer's series of over one hundred cases and Cunningham's of over two hundred without deaths warrant a careful and intelligent use of the method.

Success depends on a careful preparation. The patient's rectum is emptied by full doses of magnesium sulphate followed by two cleansing enemata, the last one to be given an hour before the operation.

Cunningham's latest apparatus consists of a wash bottle, 7½ inches high and 4 inches in diameter, placed in a large glass jar full of water at 98 F. Five inches of the height of the bottle is occupied by ether, leaving 2½ inches for vapor space. An afferent tube leads to the bottom of the ether; an efferent tube is cut off flush with the stopper in the bottle. A double cautery bulb forces air by the afferent tube through the ether, which it leaves in the form of vapor through the efferent tube. The efferent tube ends in an ordinary rectal tube. Heat is retained in the glass jar by a tin cover, having a hole for the neck of the bottle, and another for a thermometer which registers the temperature of the water.

With the patient in the dorsal position, one thigh is held slightly elevated by a sandbag, and the rectal tube is introduced eight or ten inches. Gentle pressure of the cautery bulb slightly distends the rectum, and the forefinger, being held at first along the rectal tube, allows the escape of flatus from the rectum. The bulb must now be pressed gently at regular intervals, and as the patient becomes accustomed to the tube the finger may be withdrawn. As the bowel absorbs the vapor, the patient may complain of a desire to defecate, and of slight abdominal discomfort. This is due to distention, and must be met by reintroducing the finger to allow the escape of superfluous vapor.

In from three to five minutes the odor of ether may be perceived in the patient's breath. In two or three minutes more he becomes drowsy, the eyes close, the breathing becomes tranquil, regular, and slightly stertorous, and he passes into complete anesthesia, usually without excitement or struggling. The time necessary to produce complete anesthesia by this means varies from six to fifteen minutes, according to the patient and the absorbing qualities of his rectal mucous membrane. Anesthesia once established is easily maintained by gentle pressures of the bulb every one or two minutes.

After the operation the rectal tube is disconnected from the apparatus, but is left in the rectum, while gentle massage along the course of the colon expels any remaining ether vapor. The rectum is then again cleansed by an enema.

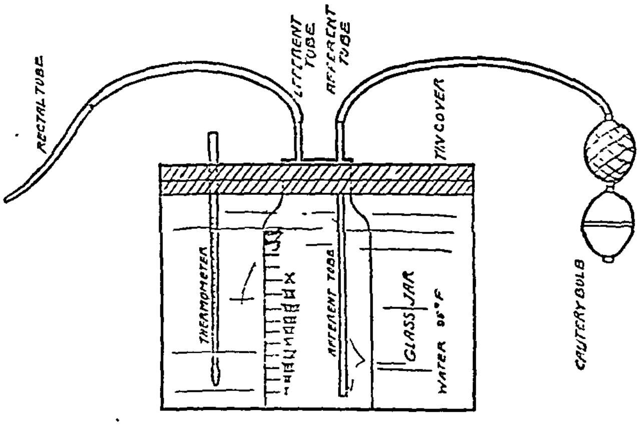
5. Crile's procedure of packing and intubing the pharynx is a very useful method for producing anesthesia in cases of extirpation of the tongue, resection of the lower jaw, etc. Full anesthesia having been obtained by the usual methods, two rubber tubes, eight inches long, beveled at the distant ends, are passed through the nares down to the epiglottis. The whole larynx is then firmly packed with a large piece of gauze, and respiration is caried on entirely through the tubes. The upper ends of the tubes are connected with the two arms of a Y-tube. The stem of the Y-tube terminates in a funnel lightly packed with gauze, on which ether is dropped.

This method works very well and absolutely prevents the swallowing or inhalation of blood, mucus and saliva.

The above procedures are the most important special methods at our disposal for anesthetizing in head and neck operations. A brief mention of certain other operations brings out additional points of interest.

OPERATIONS ON THE BRAIN.

The subjects of these operations are apt to be either restless and delirious, or stupid and lethargic. The former class requires the use of morphin and atropin in small doses; the latter requires no morphin or atropin. When once carefully anesthetized, most brain cases can be controlled with very little of the anesthetic, usually but a few drops of ether or chloroform from time to time. The pulse is frequently slow, and it is easy to over-anesthetize such patients with the production of a serious circulatory and respiratory depression. Therefore a light anesthesia should be maintained.



Cunningham's apparatus for rectal anesthesia.

The method of continuous cardiac auscultation is employed for these cases in Harvey Cushing's clinic. By this means the anesthetist maintains a surprisingly close acquaintance with his patient's condition from moment to moment.

Gas should not be used owing to the sudden rise in arterial pressure that it produces. As a rule, inhalation-anesthesia induced by chloroform or the A. C. E. mixture and maintained by ether (semi-open method), is the best form of anesthesia for brain operations.

For most *rhinologic and laryngologic operations,* such as removal of tonsils and adenoids and nasal spurs, we use ordinary inhalation anesthesia by gas or ether, or by simple ether with the semi-open or closed method. In operations on the frontal sinus, antrum of Highmore, and larynx, special methods are required. Speaking generally, rectal anesthesia answers admirably for all three of the above mentioned operations.

Anesthetization for operations on the larynx may present a very interesting problem, the solution of which is, of course, at hand if rectal anesthesia is used. If it is not used, anesthesia may be induced by the inhalation of chloroform, or A. C. E. mixture, and may be maintained by the same drugs administered through a tracheotomy tube and catheter, at one end of which is a funnel lightly packed with gauze.

The Trendelenburg position and the Trendelenburg tube[3] are useful. This method is disagreeable, however, and not without danger. Rectal anesthesia is preferable.

EMPYEMA.

In operations for empyema the serious mistake is often made of having the patient lie on his side with the sound lung underneath. This hampers respiration. If the patient happens to have abscess of the lung and not empyema, the pus from the abscess cavity may, if the position of the patient is faulty, as described, flow over into the sound lung and suffocate the patient. Commencing the operation with chloroform or C. E. obviates coughing and the production of mucus; the patient may then be charged up with ether and operated on in a sitting position, thus giving the sound lung a good chance to work.

In empyema, rectal anesthesia, if possible, is the ideal form of anesthesia.

Edebohl's operation for decapsulating the kidneys is often done under gas and oxygen administered by Hewitt's apparatus, which provides for varying percentages of oxygen to be given with nitrous oxid. This is undoubtedly the least irritating form of anesthesia for both kidneys and lungs. A curious fact in connection with it, however, is that temporary glycosuria often follows its use.

For old and middle-aged men, requiring prostatectomy, we find that mixtures of ether and chloroform, preceded by morphin and atropin, make the best form of anesthesia, controlling the patients well, and leaving slight after-effects, provided we do not use spinal analgesia.

2. An anesthesia produced as described above may often be successfully maintained by using Greene's modification of Fillebrown's thermo-ether inhaler.[4] In this apparatus a foot-bellows forces air by an afferent tube through ether contained in a bottle which is held in a boiler full of water at 98 F. The heat produces a more rapid vaporization of the ether, and thus intensifies its strength. An efferent tube conducts the warm vapor to the patient's mouth, where a patent stop-cock so controls the supply of ether that it is admitted during inspiration only.

The patient must be deeply etherized at first by ordinary methods, otherwise reflex coughing and partial recovery from anesthesia may result when one uses this apparatus.

THE BLOOD CHANGES INCIDENT TO SURGICAL ANESTHESIA.

*WITH SPECIAL REFERENCE TO THOSE INDUCED BY NITROUS OXID. A CLINICAL AND EXPERIMENTAL STUDY.**

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The phenomena of general anesthesia had scarcely been appreciated before the corollary arose: Does narcosis harm the animal economy, and, if so, in what particulars? A number of physiologic and clinical studies have been made by different investigators to determine whether the anesthetics ordinarily employed are harmful. The present study may be grouped with these researches and was undertaken at the suggestion of Dr. A. D. Bevan with the hope of defining as accurately as possible the blood changes incident to nitrous oxid anesthesia. The increasing use of this gas as an anesthetic in major surgical operations, as well as the increasing time of anesthesia, were factors which prompted the investigation. In particular, we attempted to answer the following questions: 1. Does nitrous oxid reduce the hemoglobin and thereby cause anemia? 2. Does it cause hemolysis? 3. Does it increase the coagulability of the blood and thereby increase the danger of postoperative thrombosis? 4. Are its effects on hemoglobin, red blood cells, coagulation, etc., more harmful than those produced by chloroform or ether? 5. Are there other untoward blood changes? In a rather careful inquiry into the literature nothing was found bearing specifically on these points.

Hewitt,[1] dealing with anesthetics in general, writes as follows:

> Little is accurately known as to the changes which anesthetic gases and vapors produce in the blood itself.
>
> Speaking generally, it would seem that most anesthetics enter and leave the blood without producing in it any destructive or important changes save those which must inevitably result from interference with normal respiration necessarily incidental to the plan of administering anesthetics by inhalation. When, as is the case with certain of these agents, the oxygen supply is greatly diminished or the elimination of carbonic acid is retarded, the usual effects of asphyxial blood on the medullary centers and cardiovascular system will be produced. Sansom, Wittich, Böttcher and other observers, however, have described alterations in the red blood corpuscles, and according to the Glasgow Committee of the British Medical Association, disintegration of these corpuscles takes place within the pulmonary capillaries during inhalation. Grube urges that as urobilinuria may occur two or three days after anesthesia, it is probable that the destruction of red blood corpuscles is a result rather than an accompaniment of the administration.

METHODS.

The observations about to be reported are based on clinical and experimental work. The clinical observations were made on patients in the various surgical services of the Presbyterian Hospital. The experimental work was done in the Laboratory of Experimental Therapeutics at the University of Chicago, dogs being used for the purpose.

The clinical data were obtained in as nearly a routine manner as possible. The blood readings were taken in the morning at about the same hour and usually just before the beginning of the anesthesia. The hemoglobin was read with the Dare instrument, the mean of three readings being taken. The red and white cells were counted in the usual way with the Thoma-Zeiss apparatus. The volume index was obtained after the manner advised by Capps[2] by the use of dry clean hematocrit tubes on the electric centrifuge. The coagulation time was determined by the Brodie and Russell coagulometer, as modified by Boggs.[3] Some of the earlier readings were taken by the Hayem method, but these tallied so closely with the others that they are included as well.

Whenever possible, the second readings were taken in the cases of gas anesthesia while the patients were narcotized and while moderately cyanotic. The third reading was made immediately after the inhaler had been removed, but not until the patient was awake, perfectly conscious and showing no trace of cyanosis. The readings were obtained for the fourth time twenty-four hours later, and in some cases again seventy-two and ninety-six hours, and again in from five to seven days. The omissions in the tables are due to unavoidable happenings, such as immediate departure of patients after short anesthesia, the interference of some more necessary duty at the exact reading time, the death of patients, etc.

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[3] This is an ordinary tracheotomy tube fitted with an inflatable tube to protect the lungs from blood, mucus, etc.

[4] Am. Pract. Surg., iv, 186.

*From the Surgical Clinic of Dr. A. D. Bevan, Presbyterian Hospital, and the Laboratory of Experimental Therapeutics (S. A. Mathews, director), the University of Chicago.

[1] Anesthetics and Their Administration, London, 1907, pp. 66 and 99.

[2] Jour. Med. Research, 1903, 10, 367.

[3] Hinman and Sladen: Bull. Johns Hopkins Hosp., 1907, xviii, 207.

No attempt was made to select cases, but for the most part no severe hemorrhage or other factor arose which might have influenced the readings. One case of chronic obstructive jaundice was excluded because of the uncertainty of color estimation in the presence of bile pigment. In all, twenty cases were examined to determine the effect of nitrous oxid anesthesia on hemoglobin alone, eight cases in which the reds were counted along with the hemoglobin readings and the color index determined, fifteen cases to determine the effect of nitrous oxid on coagulation time, twenty-five cases as a control, showing the effects of ether; in addition a few red cell volumetric determinations, urinary examinations for urobilin, gross leucocyte counts and differential preparations for nucleated reds were made.

The experimental work was done on forty-two dogs. The hemoglobin, red count, volume index and coagulation time were determined before, during and after anesthesia with nitrous oxid, ether and chloroform, respectively. The nitrous oxid series was amplified by specific gravity readings (method of Hammerschlag) and spectroscopic determinations. Likewise a number of experiments were performed to determine the physiologic mechanism responsible for the blood changes.

One of us (Ewing) investigated further the effects of anesthesia on the fixed tissue cells, as well as the relation of increased coagulability and peritoneal irritation to postoperative thrombosis. These results will be published subsequently in a separate communication.

EFFECT OF ANESTHESIA ON HEMOGLOBIN AND ERYTHROCYTES.

NITROUS OXID ANESTHESIA.

(*a*) *Literature.*—The first noteworthy contribution on blood changes due to anesthetics appeared in a report to the Royal Medico-Chirurgical Society in 1861, wherein Sansom[4] showed that anesthetic substances added to blood in test-tubes destroyed its corpuscles and liberated hemoglobin. A few years later, in 1869, McQuillen,[5] after an examination of patients' blood before and after anesthesia with ether, chloroform and nitrous oxid, stated there was no evidence of corpuscular degeneration. Amory,[6] in 1870, experimenting on dogs, came to the conclusion that nitrous oxid anesthesia diminishes the amount of carbon dioxid exhaled by almost one-half.

Turnbull,[7] experimenting on frogs and rabbits, in 1879, found no perceptible change in the morphology of the red corpuscles after the animals had been placed in containers of nitrous oxid and allowed to remain there until stupefied. MacMunn,[8] in 1880, stated that in the arterial blood of an animal killed with nitrous oxid are only spectrum lines of reduced hemoglobin, while that of an animal dead from chloroform gave an oxyhemoglobin line very clearly. Ulbrich,[9] in 1887, found no hemoglobin by spectroscopic analysis in blood saturated with nitrogen monoxid. Rothman,[10] working a year later with more dilute solutions of such blood, established the spectrum of hemoglobin unimpaired. The results of Rothman agree with those of Hermann,[11] Jolyet and Blanche,[12] Goldstein,[13] MacMunn,[14] Buxton and Halliburton.[15]

Van Arsdale[16] concludes there is no true combination of nitrous oxid with hemoglobin; that the spectrum lines are unchanged; that the nitrogen monoxid goes into solution in the plasma, and that there is a real specific anesthetic action.

Kemp[17] experimented on fifty dogs to determine whether or not anesthesia was due to asphyxia or to some specific action. In an analysis of the blood gases during nitrous oxid anesthesia, he finds complete anesthesia possible while the blood is carrying about 8.5 per cent. of O, 25 per cent. of N_2O, and 17 per cent. of CO_2. He found, further, that the blood mixed with soda solution in the canula connecting the animal with the kymograph always gave the spectrum of oxyhemoglobin, and that attempts at producing a compound of nitrous oxid and hemoglobin by saturating the blood with the gas always resulted negatively. He reasons that the gas is held in simple solution in the plasma in an amount equal to that absorbed by water, and concludes that nitrous oxid is a specific anesthetic not dependent on asphyxia for its effects.

(*b*) *Clinical Results.*—The twenty cases (Table 1) in which the effect of nitrous oxid anesthesia on hemoglobin was studied and on which the following deductions are based, consist of anesthesias of varying lengths, from three to thirty minutes, with an average of 16.1 minutes. The time noted is the actual time the patient was supposed to be narcotized. The hemoglobin range before anesthesia was from 59 to 98 per cent., with an average of 78.4 per cent. The hemoglobin readings (Dare) during anesthesia varied from 75 to 120 per cent., with an average of 88 per cent. The readings immediately after the patient became conscious ran from 60 to 87 per cent., with an average of 74 per cent. Those taken twenty-four hours later varied from 58 to 100 per cent., with an average of 76.9 per cent.

In a summary of four cases in which the readings were taken without a break in the series, the averages before, during, and immediately after, and in twenty-four hours, were 75, 89.1, 70.5 and 74.2 per cent. In a series of seven cases, which is complete, with the exception of the late twenty-four-hour reading, the averages are 83.4, 90.4 and 70 per cent. for the same readings as above.

In a total estimation of the average rise, fall immediately afterward and of the fall in twenty-four hours, we find 10.3, 5.2 and 1.3 per cent., which, expressed in percentages of the average hemoglobin reading before, is 13, 6.5 and 1.6 per cent.

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[4] Quoted by DaCosta and Kalteyer: Am. Surg., 1901, 34-329.

[5] Dent. Cosmos, March, 1869.

[6] N. Y. Med. Jour., xii, 1.

[7] Quoted in Lyman: Artificial Anesthesia and Anesthetics, New York, 1881

[8] The Spectroscope in Medicine, London, 1880, xiii, 73.

[9] Prag. med. Wchnschr., 1887, (22).

[10] Vierteljähr. f. Zahnheilk., 1888, No. 3.

[11] Arch. f. Physiol., 1864, 524-526.

[12] Arch. f. d. ges. Med., 1878, 334-336.

[13] Id.: 1878, xvii, 135.

[14] Dublin Jour. Med. Sc., 1879, p. 210-211.

[15] Trans. Odont. Soc. Gt. Brit., 1887, xix, 96.

[16] Am. Jour. Med. Sc., 1891, 102, 131.

[17] Brit. Med. Jour., 1897, 2, 1480.

We may say, then, that during nitrous oxid anesthesia there is an increase of 13 per cent. in the Dare reading of hemoglobin while the patient is narcotized and showing a shade of cyanosis; that there is a fall of 6.5 per cent. immediately the mask be removed, and that this fall is reduced to 1.6 per cent twenty-four hours later, apparently showing that it was a transient phenomenon.

What this rise and fall is due to, whether or not there is a true polycythemia in the first instance and an oligocythemia in the second were the immediate problems which presented themselves, once the stability of the curve had been established. To this end, eight cases were investigated and the reds counted, together with Dare readings, and the color indices determined.

(*c*) *Effect on Hemoglobin, Red Blood Cells and Color Index in a Series of Eight Clinical Cases.*—The results of these have been grouped together in Table 2. Because of incomplete records, the readings during anesthesia have been omitted. In three cases in which the hemoglobin was read during anesthesia, however, the same increase shown in Table 1, from 10 to 17 per cent., was noted. The red count in one of these cases increased 900,000 cells during narcosis. We have averaged the readings similarly to the hemoglobin readings in the preceding table and find the following:

The hemoglobin readings before, immediately after, twenty-four to forty-eight hours later, and five to seven days after, are 74.3, 72.4, 76.6 and 81.3 per cent., respectively. Analyzing these briefly, we see a slight fall immediately after the anesthetic, as in Table 1. The reading twenty-four hours later, however, is slightly higher than the original (2.3 per cent.), while the late hemoglobin reading shows a 7 per cent. increase.

The red count, on the other hand, does not follow this hemoglobin change accurately. Instead of the fall immediately after consciousness is regained, there is a slight increase in the number of circulating reds, an apparent polycythemia of 177,000 cells. This rises still higher twenty-four hours later when an increase of 333,700 cells is noted. By the fifth to the tenth day, however, the count has very nearly reached normal, although a slight increase above the original average still persists.

Calculating the color index (relative percentage of contained hemoglobin) from the above values we find a slight drop of 0.06 per cent. immediately after anesthesia; a gradual return to almost normal (throughout this paper "normal" blood readings are to be interpreted as the readings of that particular case before the anesthetic was administered) in twenty-four hours, and a steady increased absorption of hemoglobin coloring matter until on the seventh day the index is 0.04 per cent. above the original quotient.

Briefly, we may summarize these findings by saying that in this series of clinical cases nitrous oxid produced little change in the relation of the blood cells to their hemoglobin content; that the fall of hemoglobin noted immediately after anesthesia was not followed closely by a corresponding fall in the red count, but that, if anything, there was a slight increase in the number of the circulating reds which persisted, and that as an end result, there was a slight increase in the hemoglobin content per cell and no demonstrable change in the number of the red blood corpuscles.

These facts would show that there was no grave result from the anesthesia so far as hemoglobin estimates and red cell enumeration could determine. The immediate hemoglobin fall was still unexplained and appeared constant. The other variations were slight and not constant, and appeared to be within the bounds of experimental error.

As a result of these two investigations, there appears to be no oligocythemia due to hemolysis and no persisting oligochromemia or anemia. But the problem of the great increase in the Dare reading during anesthesia, the question whether this is due to a true polycythemia, anhydremia or other phenomenon was still unsettled. For the solution of this question we turned to the laboratory and began our experimental work on dogs.

(*d*) *Changes in Hemoglobin, Erythrocytes, Color and Volume Indices, Specific Gravity and Leucocytes in a Series of Experimental Animals.*—The results in these experiments were obtained from a series of readings on seven full grown healthy fox terriers, ranging from 4 to 7 kilos in weight. The blood was obtained from a vein, exposed after washing and shaving the inner surface of the ear. We found this to be important, that the blood might be obtained running freely from the cut vein, as even the slightest pressure caused a wide variation in the readings. There was no further preparatory treatment, such as limitation of the diet and water, or the administration of any drug. Immediately after anesthesia the dogs were placed in separate cages until conscious, and were then allowed their usual diet with no restrictions.

The protocols of the several experiments have been grouped as compactly as may be in Table 3 in the order of lengthening time of anesthesia. In order that the readings may be more easily interpreted and connotated, we have prepared Table 4 which shows the average readings of the seven cases for each component separately (Chart 1). An inspection of these results brings forth some very striking facts.

In the first place, we see the same rise and fall in the Dare hemoglobin readings as noted clinically in Tables 1 and 2. We see further that this apparent fall comes nearly back to normal in two hours after anesthesia; that twenty-four hours later it is not only back but slightly higher than the original and that this gradually falls till on the sixth to the ninth day it is practically what it was before anesthesia began.

A study of the erythrocytes shows a most interesting phenomenon, namely, that during anesthesia there is an apparent large increase in the number of red cells, 874,000, and still more suggestive, that as soon as the dog is conscious this high red count has already started to fall, and two hours later has reached a point equal to that before the experiment was started. The subsequent red counts for the succeeding days hover around this same count and show no constant change.

That the change in hemoglobin and reds does not go absolutely hand in hand, is well brought out by the color index readings wherein we see a high decimal during anesthesia, followed by a low reading immediately after. In two hours, however, the quotient is the same as the first reading and remains so with slight oscillations till the ninth day.

The volume index readings were desired in the first instance to control any change in the integrity of cell volume due to nitrous oxid anesthesia, and secondarily to investigate from no particular *a priori* consideration any volumetric change which might occur. The hematocrit readings show clearly that the gross volume of cells follows closely the increased cell count, thereby ruling out any variation in the percentage volume of the individual corpuscle.

The specific gravity readings show a rise during and immediately after anesthesia, with a return to the normal in two hours. This agrees closely with the expected change due to the increased blood weight from the concentration of cells.

Leucocyte counts were taken merely for the sake of completeness and to see if they corresponded to the red cell readings. An inspection shows a curve following closely that of the erythrocytes, with the single exception in the two-hour reading which, instead of dropping to the normal, as the majority of the other components do, remains high, to gradually reach normal in twenty-four to seventy-two hours.

The anesthesias in this series were all performed in the same manner, with the exception of Cases 3 and 4, in which a mixture of from 3 to 4.5 per cent. of oxygen was substituted for air. It was thought interesting to see if there was any demonstrable change in the various readings due to the interpolation of oxygen gas because of the fact that at present many nitrous oxid anesthesias are being given with this admixture.

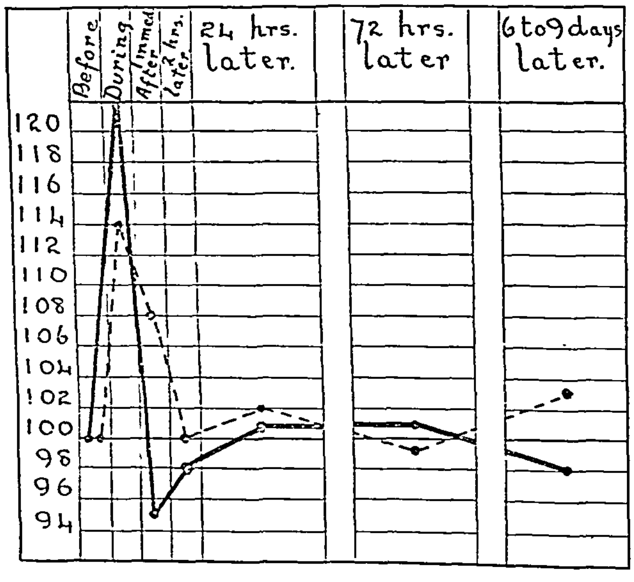

Fig. 1.—Curve showing effect of nitrous oxid anesthesia on hemoglobin (solid line) and erythrocytes (broken line). Summary of results of seven animal experiments (Table 4).

Table 5 shows a summary of the two nitrous oxid-oxygen cases with the five nitrous oxid-air series. Analysis shows a very interesting difference insofar that the hemoglobin readings in the oxygen cases show practically no greater change than the increased cell count would demand; the color index thereby not showing the increase noted in the nitrous oxid-air cases. The explanation of this difference we hope to demonstrate later in the paper.

The growing tendency of clinicians to use nitrous oxid in cases requiring long anesthesia lead us to investigate the variations in blood changes dependent on increased time and therefore amount of nitrous oxid employed. Table 6 shows a comparison of two cases of over two hours' duration with two cases of less than forty-five minutes' duration. A survey of these cases shows that a greater rise of red cells, hemoglobin and specific gravity occurs during prolonged anesthesia; that the color index remains unchanged and that in two hours this increase in reading drops to normal. Summarizing the facts this series has established, we find that:

1. The rise and fall in hemoglobin readings first observed clinically holds true in experimental animals. 2. The return to normal occurs within two hours after anesthesia. 3. There is an accompanying rise and fall of erythrocytes. 4. This change does not exactly correspond to the hemoglobin change as shown by the high blood decimal during anesthesia and the low quotient immediately after. 5. The percentage volume undergoes little if any change. 6. The specific gravity increases and decreases hand in hand with the red cell change. 7. There is a postnarcotic leucocytosis closely following the red cell curve.

The physiology of these various phenomena and their significance we have grouped under a separate heading, for the explanation of which we must include a number of isolated experiments.

(*e*) *Physiology of Blood Changes Under Nitrous Oxid Anesthesia.*—We first attempted to explain experimentally the hemoglobin rise during nitrous oxid anesthesia. Thinking that the Dare readings might be erroneous because of lack of oxygenation, we compared them with a series of von Fleischl readings of the same blood inasmuch as the blood during the latter manipulation undergoes thorough mixture with water and air. Table 8 shows the results of such a comparison with controlling red cell counts and color index determinations.

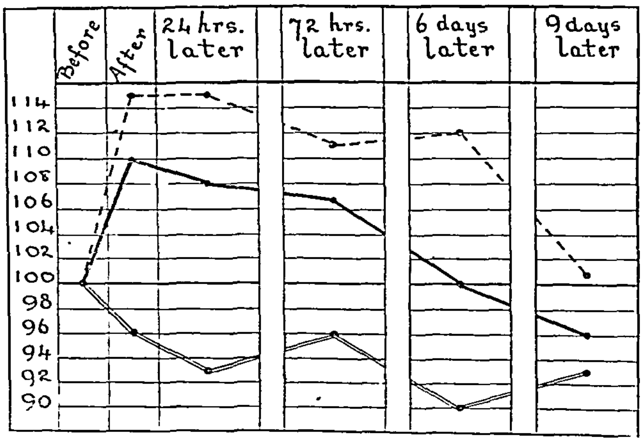

Fig. 2.—Curve showing effect of ether anesthesia on hemoglobin (solid line) and erythrocytes (broken line). Color index indicated by double line. Summary of results of five animal experiments (Table 9).

This shows a marked discrepancy of an average of 10 per cent. in the hemoglobin readings as read with the two instruments. Also we see that the color index with the Dare increases, while the von Fleischl remains unchanged. These results lead us to the conclusion that the hemoglobin as read by the von Fleischl instrument is the most correct insofar as the hemoglobin is thoroughly exposed to the air by the process of dilution, and as it follows exactly the changes in the red counts.

Why does the Dare instrument read high during nitrous oxid anesthesia? It was a striking fact noted early in the investigation that the blood was not only blue as it streamed out over the patient's ear, but remained blue in the Dare holder. To elucidate this problem we did the following things: Ten cubic centimeters of blood were withdrawn from the carotid artery of a dog after he had been partially anesthetized with ether. This was defibrinated and a number of Dare determinations and spectroscopic examinations were made. Nitrous oxid was then passed through for ten minutes. At the end of this time there was no gross change in the color of the blood; a second group of Dare readings showed the same average; the spectroscope showed unchanged oxyhemoglobin.

These negative findings suggested the theorem: Inasmuch as nitrous oxid alone in the test-tube produces no change comparable to the change found in anesthetized animals' blood, what is the causative factor? To this end blood was withdrawn from the carotid artery of three dogs during anesthesia, defibrinated, and the Dare reading taken. Pure oxygen gas was then passed through for five minutes and the hemoglobin again read. Table 8 shows the results of these readings, showing a drop of 24.8 per cent., from 114.8 before to 90 per cent. after gas had been passed through.

We concluded, then, that inasmuch as there was no demonstrable change from nitrous oxid and blood alone in the test tubes, and because the blood under nitrous oxid anesthesia can be brought back to what it was before anesthesia (by passing oxygen through it in a test tube) that part at least of the high hemoglobin reading was due to some product contained in the cyanotic anesthetized blood and removable by a stream of oxygen.

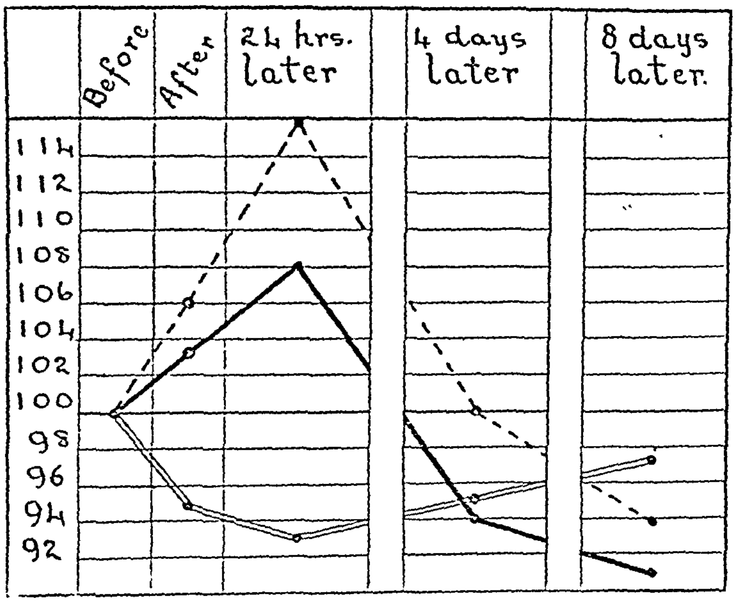

Fig. 3.—Curve showing effect of chloroform anesthesia on hemoglobin (solid line) and erythrocytes (broken line). Color index indicated by the double line. Summary of five animal experiments (Table 10).

What is this product? All previous authors (except Ulbrich) were unable to demonstrate any change in the spectroscopic readings. Our first spectroscopic determination on the blood of five dogs during anesthesia, taken in the usual way by mixing a few drops of blood with salt solution in a chamber, showed nothing but lines of oxyhemoglobin. Our second set of experiments, however, on three dogs deeply anesthetized, showed lines of reduced hemoglobin. This was accomplished by preventing the oxidation of the hemoglobin by collecting the blood under oil, with a canula immersed in salt solution. By very high dilution the lines of oxyhemoglobin were obtained. These results show very clearly that the product which causes the high Dare reading is reduced hemoglobin.

We find further that this reduction in hemoglobin is not due to the anesthesia *per se*, but to the acompanying asphyxia—note the differences in the hemoglobin reading under the nitrous oxid-oxygen mixture as contrasted with the nitrous oxid-air mixture (Table 5)—as well as the disappearance of the blue reduced hemoglobin under a stream of oxygen and the inability to produce same with nitrous oxid alone.

The explanation of the high red count under gas is still an open question, except from the standpoint of the possible explanation of a local capillary stasis. The drop in hemoglobin to normal as soon as the mask is removed is made clear on the basis of the removal of the high-reading reduced hemoglobin by oxygenation. The drop continuing to below normal remains unexplained. That this is of little consequence is strikingly shown by the fact that in two hours all the readings are equivalent to those before anesthesia. Were they of moment they would not come back so quickly.

We investigated further the question of hemolysis and increased red cell regeneration by a series of smears before and after anesthesia, looking especially for nucleated reds; by examination of the urine for urobilin; by an examination of the plasma in the hematocrit tube for blood coloring matter; all of these examinations resulted negatively; no definite evidences of hemoglobin or increased hematopoietic activity could be found.

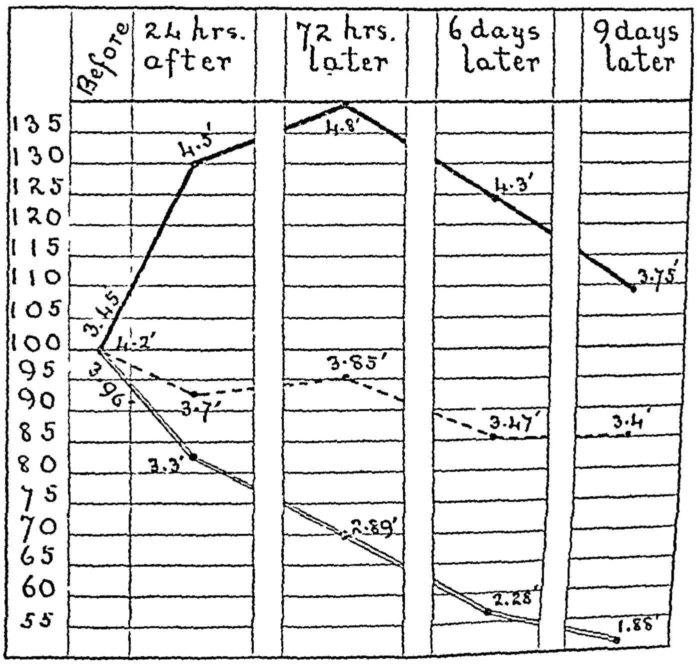

Fig. 4.—Curve showing effect of nitrous oxid (solid line), chloroform (broken line) and ether (double line) anesthesia on the coagulation time of the blood. Summary of results of twenty-five animal experiments (Tables 13, 14 and 15).

Finally, therefore, we conclude that nitrous oxid anesthesia does not reduce hemoglobin and thereby cause anemia; that it does not cause increased hemolysis; that what apparent change it does produce on hemoglobin and red cells is transient and of no clinical significance.

CHANGES DUE TO ETHER ANESTHESIA.

(*a*) *Literature.*—The first specific examination for blood changes due to ether anesthesia appeared in 1895 (although Bierfreund,[18] reporting from Mikulicz's clinic in 1890, found a hemoglobin destruction of from 5 to 10 per cent.) when DaCosta examined the blood of twenty-seven operative cases, before, during and after etherization.[19] He concluded that etherization produces a marked diminution in the hemoglobin of the blood and caused an alteration in the morphology of the red blood corpuscles with no decrease in their numbers. Further, that blood previously diseased—in anemic individuals—is especially susceptible.

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[18] Langenbeck's Arch., 1890-91, xli, 1.
[19] Med. News, March 2, 1895.

Buxton,[20] in 1896, found destruction of corpuscles and liberation of hemoglobin when shaking blood with ether, and thinks that a similar, although less marked phenomenon occurs in the body. Oliver,[21] the same year, saw the necessity of controlling the above observations on animals and from observations on rabbits anesthetized for an hour with ether found no changes in normal red corpuscles, but admits it may affect those already diseased.

The following year von Lerber[22] reported a study of the blood in 101 cases after the inhalation of ether. He found that in most cases the hemoglobin was unaltered; that the red blood corpuscles were morphologically and numerically unchanged, and that spectroscopic urinary examination for urobilin was negative, concluding that there was no hemolysis and liberation of hemoglobin.

In 1889 Hamilton Fish,[23] theorizing from examination of patients' blood before and during anesthesia, states that ether reduced hemoglobin and exerted a harmful effect on red blood corpuscles.

In 1901, from an exhaustive study of the literature and 50 operative cases, DaCosta and Kalteyer[24] concluded as follows: "The number of red corpuscles is influenced by many factors accompanying the anesthetic state. The character of this change is, as a rule, a polycythemia—rarely an oligocythemia. The nature of this polycythemia seems best explained by a lessening of the watery elements of the plasma. It seems reasonable to infer that the polycythemia is not influenced by excessive proliferative changes which probably occur in the hematopoietic tissues. The three important factors incident to polycythemia are, (a) the period of preparatory operative treatment, viz., hot bath, active purgation, etc.; (b) the anesthetic state—particularly sweating; (c) postoperative stage—particularly vomiting. The blood inspissation is, as a rule, most pronounced immediately after the termination of the anesthetic stage. The hemoglobin is always reduced absolutely. We conclude that etherization produces increased hemolysis and in Nature's effort to rapidly replace the degenerated corpuscles, the regenerated cells are imperfectly supplied with hemoglobin."

Anders and Boston,[25] in 1904, confirmed the fact that ether produces increased hemolysis, but find that it is followed by rapid regeneration of cells, with an increase in the number of red corpuscles. Dawson,[26] in 1905, came to the same conclusions.

(*b*) *Changes in Hemoglobin, Erythrocytes, Color and Volume Indices in a Series of Experimental Animals Under Ether Anesthesia.*—Ether was administered to five dogs on different days, the time of anesthesia varying from fifteen minutes to two hours and twenty-eight minutes. Table 9 shows the readings of the various blood components. The last group of figures is an average of the five sets above (Chart 2).

The hemoglobin reading taken during anesthesia shows an increase which remains high until the fifth to the seventh day, and on the eighth to the tenth day shows a slight drop of 3 per cent. This is in marked contrast to the N_2O readings where the hemoglobin dropped immediately and came back to normal in twenty-four hours.

The red count shows a rise immediately after anesthesia which persisted high until a gradual decline to normal on the eighth to the tenth day. This, again, is in contrast to the N_2O count where the apparent polycythemia disappeared in two hours.

The color index shows a rather constant drop, starting immediately after anesthesia and reaching its lowest point on the fifth to the seventh day. This would indicate a relative loss of hemoglobin per cell, and again is unlike nitrous oxid results, where the only sign of a low color index is found immediately after the anesthetic mask is removed, and which is completely gone in two hours.

The volume index likewise shows an immediate loss, which is most marked in twenty-four hours, and again on the fifth to the seventh day. In the nitrous oxid readings the percentage volume remained unchanged throughout.

These results show that ether administered to experimental animals caused: (1) An increase in the hemoglobin persisting until the eighth to tenth day; (2) an increase in the number of erythrocytes persisting with slight remissions until the eighth to tenth day; (3) a loss in the relative amount of hemoglobin, most marked on the fifth to seventh day; (4) a loss in the percentage volume, most marked on the fifth to seventh day.

The apparent polychromemia and polycythemia are well explained by the anhydremia or inspissation mentioned by DaCosta and Kalteyer. The continued abstraction of the watery elements of the plasma would explain the loss in volume of the red cells due to shrinkage, the return to normal volume and normal cell count occurring synchronously. The loss in the relative amount of hemoglobin can only be explained as a true oligochromemia. This agrees with the ideas of Bierfreund,[18] DaCosta and Kalteyer,[19] Buxton,[20] Fish,[23] Anders and Boston[25] and Dawson.[26]

THE CHANGES DUE TO CHLOROFORM ANESTHESIA.

(*a*) *Literature.*—Harley,[27] as early as 1864, investigating the effect of chloroform on the blood, described various degrees of red blood cell disintegration. Guthrie,[28] in 1897, brings forth corroborative evidence and quotes the work of Ostertag, McKendrick, Sansom, Wittich and Bottcher as supporting Harley's findings.

Solimeii,[29] in 1902, found a decrease in hemoglobin and erythrocytes and moderate poikilocytosis after chloroform narcosis. Holman[30] discusses danger of chloroform hemolysis in anemic blood. Dawson,[31] in 1905, however, takes a view opposite from the above and quotes several observations to the point that chloroform produces only slight hemolysis and does not materially reduce hemoglobin.

(*b*) *Changes in Hemoglobin, Erythrocytes, Color and Volume Indices in a Series of Experimental Animals Under Chloroform Anesthesia.*—We investigated the effect of chloroformization on five dogs varying from eighteen minutes to two hours and forty-five minutes (Table 12, Chart 3). The hemoglobin per cent. shows a rather unusual change in the high reading on the day after anesthesia. The most significant fact, however, is the late fall in hemoglobin to 8.4 per cent. less than the start. This is in contrast to the 1.1 per cent. fall under nitrous oxid and the 3 per cent. fall under ether.

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[20] Lancet, Feb. 1, 1896.
[21] Lancet, June 27, 1896.
[22] Centralbl. f. Gyn., 1897, 19.
[23] Ann. Surg., July, 1889.
[24] Ann. Surg., 1901, 34, 329.
[25] Lancet, June 1, 1904.
[26] Edin. Med. Jour., November, 1905, 26.
[27] Trans. Roy. Med. Clin. Soc., 1864, p. 159.
[28] Clin. Jour., March 24, 1897.
[29] Gazz. d. osp. e. d. clin., 1902, xxiii, 108.
[30] St. Paul Med. Jour., 1902, ix, 618.
[31] Loc. cit.

The red cells show the same unusual rise in the twenty-four hour reading, following the hemoglobin curve. The absolute number is, however, relatively decreased on the seventh to tenth day. This again is to be compared to the slightly increased number found in the late readings of nitrous oxid and ether.

The relative amount of hemoglobin—color index—remains little altered throughout the readings. In general there is a slight reduction throughout, which is most marked in twenty-four hour column. The volume index is also of little interest, showing the greatest reduction in the twenty-four hour reading, when the cell count is the greatest.

We may interpret the above as showing that chloroform administered to experimental animals causes (1) a temporary rise in hemoglobin, followed by a diminution to below the normal, most marked in the seventh to tenth day; (2) a temporary increase in the number of erythrocytes followed by a decrease to below the normal, most marked on the seventh to tenth day; (3) little alteration in the color and volume indices.

The temporary polychromemia and polycythemia are explained by the anhydremia similar to the change from etherization. This has been noted clinically by King.[32] The late oligochromemia and oligocythemia are significant, however, and must be interpreted as due to blood destruction, agreeing with the observations previously quoted, excepting those of Dawson.

EFFECT OF NITROUS OXID, ETHER AND CHLOROFORM ANESTHESIA ON THE COAGULATION TIME.

The study of the coagulation time of the blood in relation to general anesthesia was undertaken because of the possible light it might throw on the question of postoperative thrombosis after clean surgical operations. It was made both clinically and experimentally. The experimental work on dogs was done so that all other factors, except the anesthetic—such as loss of blood, traumatism, etc.—might be eliminated. The clinical study was made on fifteen patients anesthetized with nitrous oxid and twenty-five with ether. The experimental work was done on five dogs anesthetized with nitrous oxid, five with chloroform, and fifteen with ether. The discussion will be divided into two parts, clinical and experimental.

Effect of Nitrous Oxid Anesthesia.—This study was made on fifteen cases from Dr. Bevan's surgical clinic (Table 11). The coagulation time was taken before anesthesia, twenty-four hours after, and on the third, sixth, seventh and tenth to fourteenth days after anesthesia. Care was taken to select cases in which there was no known factor present which would change the coagulation time. Case 8 is an exception to this, however, for on the third, fourth and fifth days after operation, he was given 60 grains of calcium chlorid daily per rectum.

A study of Table 11 shows that the average time of anesthesia was 24.8 minutes. Of the fifteen cases, 9 (60 per cent.) showed a rise in the coagulation time of the blood, 4 (26⅔ per cent.) showed practically no change, while 2 (13½ per cent.) showed a fall in the coagulation time. One of these two was the case in which calcium chlorid was given. The average of the fifteen cases shows the coagulation time before anesthesia to be 6.36 minutes. This rises and on the third day after anesthesia is highest, being 7.19 minutes or an increase of 13 per cent. By the sixth to seventh day this has fallen to 6.76, and by the tenth to fourteenth day to 6.69, which is slightly above what it was before anesthesia. It appears from these cases that nitrous oxid anesthesia does not cause a constant change in the coagulation time, but that in general it causes a rise, which is not great (13 per cent.), most marked about the third day, approximating normal by the tenth day.

Effect of Ether Anesthesia.—Twenty-five cases were included in this series. Coagulation time was taken as in the previous series and results are shown in Table 12. The average duration of anesthesia was 54.9 minutes. Of the twenty-five cases, twenty-three showed a decrease in the coagulation time, while only two showed an increase, and that only slight. The average coagulation time before anesthesia was 7.04 minutes. This falls slightly up to the third day after anesthesia, and then falls rapidly until by the seventh to tenth day it is only 4.16 minutes—a fall of slightly over 40 per cent. By the eleventh to eighteenth day it has risen to 6.1 minutes, but is not quite back to normal. Thus it appears that ether causes marked reduction in coagulation time, greatest seven to ten days after anesthesia.

When these results are compared to those obtained after nitrous oxid anesthesia a marked difference is seen. In nitrous oxid anesthesia the change was not constant and consisted, in general, of a slight rise, while in ether an almost constant drop in the coagulation time occurs, which is very marked, averaging about 40 per cent.

EFFECT OF NITROUS OXID ETHER AND CHLOROFORM ANESTHESIA ON THE COAGULATION TIME.

In these experiments five healthy dogs were used in each series. In addition to the five dogs which were given the anesthetic alone, ten more were included in the ether series, five of which had the peritoneum opened and packed with wet sponges and five opened and packed with dry sponges. These are included because they show the same changes that occur when *only the anesthetic is given.*

A study of Table 13 shows that the same result was obtained on dogs who were given nitrous oxid without operation as was obtained on the clinical cases (Table 11). The average coagulation time was increased from 3.45 minutes before anesthesia to 4.8 minutes after anesthesia. One case showed a slight decrease in the coagulation time. These are very similar to the clinical results and confirm them.

In like manner the experiments on dogs with ether showed the same change in the coagulation time that had been observed clinically. The average coagulation time is lowered from 3.96 minutes before anesthesia to 1.88 minutes by the seventh to tenth day—a change of 52 per cent.

In regard to chloroform, no clinical data were obtainable because this anesthetic is seldom used in the Presbyterian Hospital. For this reason only the animal experiments can be included in this report. The results of these experiments are shown in Table 15. Four of the five dogs showed a decrease in the coagulation time, one dog an increase. The average shows a decrease from 4.2 minutes before anesthesia to 3.4 minutes on the seventh to tenth days—a change of 19 *per cent.* This is seen to be similar to the changes under ether anesthesia, though not so marked (Chart 4).

In general, we may say that the animal experiments confirm the clinical studies, as the results are practically the same. From these clinical findings and animal experiments we conclude therefore that:

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[32] Am. Jour. Med. Sc., 1902, 124, 450.

(1) The changes produced in the coagulation time by nitrous oxid anesthesia are not constant, but, in general, it causes an increase which is slight.

(2) Ether anesthesia produces a marked decrease in the coagulation time of the blood.

(3) Chloroform also produces a decrease in the coagulation time, which is, however, not so marked as that produced by ether.

It has not been shown that the change in coagulation time has any relation to thrombosis after operation. This question will be taken up in a subsequent report by one of us (Ewing), but if such relation does exist, as is probable, the presumption is that thrombosis would be less apt to follow gas than ether or chloroform.

SUMMARY AND CONCLUSIONS.

1. In an analysis of the blood changes incident to nitrous oxid anesthesia in a series of clinical and experimental observations we find that:
   (a) The hemoglobin is not permanently reduced nor is anemia produced.
   (b) Hemolysis is not increased.
   (c) The changes in the readings of the hemoglobin and erythrocytes are transient and of no surgical significance, and are most likely to be explained on the basis of capillary stasis. The production of reduced hemoglobin is not a result of the anesthetic itself, but is due to the accompanying asphyxia.
   (d) The changes in coagulation time are not constant, but in general there is an increase in the time required for clotting most marked about the third day.
2. In an analysis of the blood changes incident to ether anesthesia in a series of experimental observations we find that:
   (a) The hemoglobin is slightly reduced and therefore a slight anemia is produced.
   (b) Hemolysis is not materially increased.
   (c) The changes in hemoglobin and erythrocytes are to be explained on the basis of blood inspissation.
   (d) It causes a marked decrease in the coagulation time, most marked from the seventh to tenth days.
3. In an analysis of the blood changes incident to chloroform anesthesia in a series of experimental animals, we find that:
   (a) The hemoglobin is reduced, and therefore an anemia is produced.
   (b) Hemolysis is increased.
   (c) It causes a slight decrease in the coagulation time, most marked in the seventh to tenth days.
4. In a comparison of the three anesthetics from the standpoint of the blood changes we conclude that nitrous oxid causes no permanent effects of any significance: that ether causes more harmful changes (slight anemia and marked decrease in coagulation time); that chloroform causes the most harmful results (hemolysis and production of distinct anemia).

We wish here to express our appreciation to Dr. Bevan for his interest and encouragement throughout the progress of this work, and to Dr. S. A. Matthews for his generous aid and assistance, without which many of the animal experiments could not have been performed.

NOTE: Accompanying this paper are 15 tables giving details of the experimental observations on the blood changes. On account of lack of space, these tables are omitted from THE JOURNAL, but will appear in the Transactions of the Section on Surgery and Anatomy, and in reprints of the Report of the Committee on Anesthesia. A copy of the latter will be sent by THE JOURNAL of the American Medical Association on receipt of a two-cent stamp.

THE EFFECTS OF QUEBRACHIN ON THE LUNGS.*

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In 1879 Penzoldt called attention to the extraordinary increase in respiratory activity following the administration of *Aspidosperma quebracho-blanco*. Wood and Hoyt[1] have confirmed these observations, the amount of air breathed in some of their experiments being increased nearly 400 per cent. In this communication it was shown, however, that the drug was so active a depressant to the circulation as to preclude its utility as a clinical respiratory stimulant. With a view to determining whether the effects on the respiration and circulation might not be due to different alkaloids, so that one could be of value to practical medicine, I have recently undertaken the study of the individual alkaloids from quebracho furnished by Merck & Co.

There are contained in quebracho bark at least six alkaloids, namely: aspidospermin, aspidosamin, aspidospermatin, quebrachin, quebrachamin and hypoquebrachin. I have experimented with all of these except aspidospermatin and hypoquebrachin. The only one, however, which merits any detailed consideration is quebrachin; the others I shall dismiss with few words.

Quebrachamin in small doses caused a slight elevation of the blood pressure without much change in the respiration. After larger doses the rise in the blood pressure was marked and there was also a noteworthy acceleration of the breathing, but in such quantities it gave rise to violent convulsions, probably of cerebral origin. Aspidosamin has some stimulant action on the respiration, but is much more active as a circulatory depressant; the lowering of the blood pressure which is observed to follow the injection of the crude drug I think may justly be attributed to aspidosamin. Aspidospermin in moderate doses increased to a limited extent the breathing without seriously affecting the circulation, but in overdose caused respiratory depression and convulsions. Quebrachin is the most important respiratory poison in the plant. It causes an enormous increase both in the depth and rate of respiration. The effects on the circulation, while at times well marked, were variable and subordinate to the action on the respiration.

The increase in the respiratory activity caused by quebrachin I have never seen paralleled by any drug either in degree or duration. With a view of determining its practical value, I made a number of experiments to see how far it would counteract the effects of respiratory depressants. In these I found that after moderately large doses of either morphin, hydrated chloral or ether the drug caused a distinct increase in the breathing, but in several experiments where the dose of the depressant had been large enough to produce dangerous depression of function the administration of quebrachin was followed by an immediate cessation of respiration.

The most interesting fact in connection with this drug, however, is the marked pathologic changes in the lungs which were observed. In some cases, apparently more frequently after small doses or when the drug had been administered hypodermically, the lungs were found postmortem to be simply paler in color than normal, but the typical changes which were observed in greater or less degree in every instance in which the respiration was greatly increased consisted in sharply localized areas of intense congestion scattered throughout a generally anemic lung. These congested areas varied in color from the redness of freshly-cut liver to a deep purple, almost black hue, and in size from areas of a few millimeters in diameter to almost the complete surface of one lobe of the lung. Many of these spots appeared to the naked eye to be certainly hemorrhagic. Although they were generally most marked in the dependent portions of the lung, they were irregularly distributed in all portions of all lobes of the lung. The areas of congestion were much more marked on the surface than through the organ generally, and when section was made the surface congestion extended about five millimeters into the lung substance. If from one of these areas, which from color and general appearance strongly suggested hemorrhage, a piece were cut out, while it floated boggily in water, its specific gravity was evidently greater than that of the non-congested areas of the lung. Through the lung there was frequently more or less evidence of edema, although this was never of a very marked type.

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* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Univ. Penna. Med. Bull., September, 1903.

Prof. A. J. Smith kindly examined for me, microscopically, sections from the congested areas of several lungs. They showed scattered areas of atelectasis, marked dilatation and engorgement of the capillaries, some serum in the air spaces, but no real hemorrhagic conditions could be diagnosed with certainty.

Several possible explanations of these changes suggest themselves. The most obvious thought is that they were due to the violence of the respiratory activity. That this was not the case is shown by the fact that they occurred in curarized animals with artificial respiration. That they were not due to changes in the blood nor in the vessel walls was shown by the fact that the blood clotted with normal firmness and that they could not be observed, despite repeated search, in any other organ of the body.

Another conceivable cause is a violent spasm of the pulmonary capillaries offering so much resistance to the passage of blood through the lungs that the weaker vessels gave way before the pressure. To determine the possibility of this theory I made studies of the pulmonary blood pressure, and although I found that the pressure in the pulmonary circulation was slightly increased by quebrachin, the rise was insignificant, distinctly less, for instance, than that which is caused by nitroglycerin and entirely insufficient to justify such a theory.

The only other explanation which offers itself to my mind is that of a specific local influence on the pulmonic tissue, which for lack of a better word we may call irritant. It must be said, however, that the solutions employed were not, in the ordinary sense of the word, irritating; that is, when injected hypodermically, either into a dog or frog, there was no visible sign of a local inflammation, nor when placed on the tongue did they provoke any sensation beyond the taste of bitterness.

I am inclined to the belief, although the matter can not be considered distinctly proved, that the increase in the activity of the respiration is a secondary result of the pathologic changes, or, more properly speaking, is the result of the same influence which gives rise to these alterations. In the first place, there has as yet been forthcoming no satisfactory explanation of the violent dyspnea. True, we may attribute it to a direct action on the respiratory center, but the increase in respiratory activity is so disproportionate to that caused by any of the ordinary stimulants of this function that one naturally seeks for some other explanation; especially is this the case when we find that after large doses of the respiratory depressants the administration of the drug apparently adds to, rather than lessens, the embarrassment.[2] Moreover, there seems to be more or less constant relation between the severity of the changes and the degree of respiratory augmentation. Thus, in several experiments in which for one reason or another the breathing was no more violent than normal, the lungs were found to be simply anemic with no evidence at all of congestion or hemorrhage, and in cases in which the respiratory activity was only slightly exaggerated the congestive lesions were comparatively slight.

It would appear probable, therefore, that quebrachin (similar changes have been caused by quebrachamin and aspidospermin) irritates in some way the mucous membrane of the lungs, giving rise to localized congestion, and through irritation of the sensory nerve endings reflexly to an enormous increase in the respiratory activity.

THE EAR SYMPTOMS OF CARDIOVASCULAR DISEASE.

WITH SPECIAL REFERENCE TO LOW PRESSURE CASES.*

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As a practitioner of late years devoted to the study of cardiovascular disease, I esteem it a privilege to bring to the Section on Laryngology and Otology my conclusions on this very important topic. I expect to receive in return the knowledge that has come to a set of men who have studied the matter from a different point of view.

The ear symptoms of cardiovascular disease may be believed to be such, when they have developed coincidently with circulatory disorder, and when they are not the manifestation of disease of the ear itself. The decision on this point must be the outcome of careful study on the part of the specialist in circulatory disease with the cooperation of the aurist, and the final criterion must be the result of therapeutic measures.

I am conscious of the fact that tinnitus aurium is a condition that is ever pressing on the attention of the aurist and has always been one of the hardest symptoms to relieve. For that reason, if some other department of medicine is willing to assume the responsibility of a few of these cases to that extent is otology relieved. Already a certain number of cases have been relegated to that depository of ignorance which is labeled "neuroses," and the symptom has been decided to be of nervous origin and not dependent on structural defect in the ears. That a certain number are due to circulatory disease seems to me to be suggested by the fact that audible murmurs are often heard in the circulatory system in cases of anemia and relaxed blood vessels.

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[2] The theory of Penzoldt that the drug lessened the oxygen carrying power of the blood has no scientific support, and the studies of Wood and Hoyt render it highly improbable.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Indeed, several observers have discussed the significance of murmurs that are heard by cerebral auscultation. In an elaborate article sixty-five years ago, Dr. S. S. Whitney[1] describes the murmurs heard on auscultation of the head and, and since his time other observers have discussed this topic. That there are certain circulatory sounds that are a great annoyance to the patient and that can also be heard by the physician, while not of frequent occurrence, still has occurred in the experience of nearly everyone. In such a case we would not blame the ears as the source of the sound. It is reasonable to suppose that some of the sounds heard by the patient alone are similar in origin, and it has been my good fortune in a few instances in which these sounds were believed by me to be due to circulatory disease to observe the removal of the symptom when the circulatory condition was improved. While I have seen this both in high and low tension cases, the most striking have been in the low tension cases. To quote from Wood's Reference Handbook of the Medical Sciences:

> Subjective ear noises, are said by Politzer, to occur in two-thirds of all ear cases, and are probably due in true ear cases to pressure and irritation of the nerve endings in labyrinth. Ear noises are variously described as singing, ringing, blowing-off steam, hissing, rushing, roaring like the waves of the seashore, certain musical notes, clicking or voices. In some cases the noises are heard only during perfect silence, as after retiring or when the patient is fatigued or during a "cold," or when his general condition is below par.
>
> Noises are more common in the sclerotic form of chronic middle ear catarrh than in the chronic suppurative conditions. In the sclerotic cases the tinnitus is frequently described as a singing or a blowing sound, and here it often precedes the deafness by many years, if indeed the latter ever follows. Tinnitus may occur in cases of aspergillus or of impacted cerumen, or it may follow the use of quinin or the salicylates. When it is due to drugs it is evanescent and probably is caused by anemia of the labyrinth. If the noises are diminished by compression of the carotid artery they are probably caused by congestion of the arterioles in the middle or external ear, and in such cases they are often synchronous with the pulse.
>
> The clicking or crackling forms of noises are generally due to spasm of the tensor tympani or the stapedius muscles. In a certain number of cases these noises may be heard by the examiner as well as by the patient. When the subjective sounds are sustained musical notes they usually represent the high A of Beethoven. Hysterical patients may describe the subjective musical sounds as "entire operas." Voices are rarely heard except in insanity. A small epithelial scale attached to the drum membrane has at times been the sole cause of distressing subjective noises. When the tinnitus intermits the prognosis is more favorable than when it is constant.

It would seem to me that each case should be analyzed according to the relations of three classes of causes. Naming these in the order suggested by my own point of view, I would say: First, an increase in the noise of the circulation just as there is an increase in the noise of a railroad by loose rails or flat wheels. Second, an increased sensibility of the auditory nerve apparatus, whereby the physiologic noise of the circulation becomes the subject of a conscious appreciation. Third, disease of the ear itself outside of the nerve apparatus stimulating this nerve and inciting its characteristic impression just as a blow on the eye produces the sensation of light. The situation is complicated because we must analyze these three elements and in many cases all three are active, but from this it is fair to suppose that when we influence one of them and there is an improvement in the symptoms that we have controlled a part of the trouble. There is no fact that I have heard more often in my dealings with otologists than that tinnitus aurium is dependent in its severity on the patient's general condition, and there is no fact more certain than that the circulation is dependent on the general condition.

Great advance has been made of late years in the appreciation of the circulatory problem in disease. For many years high pressure cases were studied. Now low pressure cases are becoming better understood. I would place among the most important advances in my knowledge of recent times the appreciation of the fact that weak circulation so often met with in severe disease is more often a matter of vasomotor deficiency than of heart weakness. The heart is usually competent to carry on the circulation provided the condition of the peripheral vessels can be properly controlled.

There are three great important locations of vasomotor control; in the medulla and brain, in the spinal cord and in the blood vessels themselves. The first to fail in severe disease is that in the medulla, and recently it has seemed to me that I have studied cases of penumonia in which the vasomotor control has been transferred from the medulla to the other two locations. In the low tension of the type in which circulatory ear symptoms were manifest, there seemed to me to be a combination of rather general vasomotor insufficiency, and a degeneration of the heart muscle. In other words, a weak heart in which compensatory constriction of the peripheral vessels had not taken place.

In this connection I should like to call attention to a paper by Dr. John J. Kyle[2] of Indianapolis on "A Study of Ear Symptoms in Arteriosclerosis with Special Reference to the Labyrinth." He refers to progressive loss of bone conduction, which he believes to be coincident with the development of arteriosclerosis. The article is so good that I should like to quote it in full in this connection, but it is a little aside of my own central idea, which has special reference to low pressure cases. He says in part:

> The ear symptoms which should direct our attention to a local or general circulatory disturbance, are unilateral or bilateral tinnitus, slight and progressive deafness, loss of air and bone conduction, dizziness sometimes early in the disease and in the later stages of the disease, sometimes hallucinations of hearing. The ear symptoms necessarily vary according to the extent of the sclerosis. It is well known that in severe hemorrhage and progressive anemia, deafness and tinnitus may occur. If the hemorrhage and anemia are severe and prolonged, deafness may be permanent, being due to an obliteration of some of the blood vessels of the cochlea or the special cochlea center in the brain. A passive tinnitus or a passive dizziness is probably due to a circulatory disturbance in the arteries of the semicircular canal or special centers of equilibration. These conditions are frequently attributed to liver disorder, rather than a valuable symptom of a possibly beginning general arteriosclerosis. A deafness without dizziness, tinnitus or Ménière's syndromes (providing no mechanical cause of deafness exists), with some general symptoms of arteriosclerosis, is indicative of thickening in vessels to the nucleus, and if associated with peripheral paralysis, may be indicative of disease of the internal capsule. Loss of hearing with dizziness may be due to a vascular disorder from tumors in the cerebrum, cerebellum or pons varolii, as well as to a sclerosis of the labyrinthine artery. Loss of hearing and dizziness continuing for a long time, are valuable signs of vascular disturbance in the entire encephalon. If the eye symptoms are also present, the evidence is complete.

He also remarks earlier in the paper what I find to be true that:

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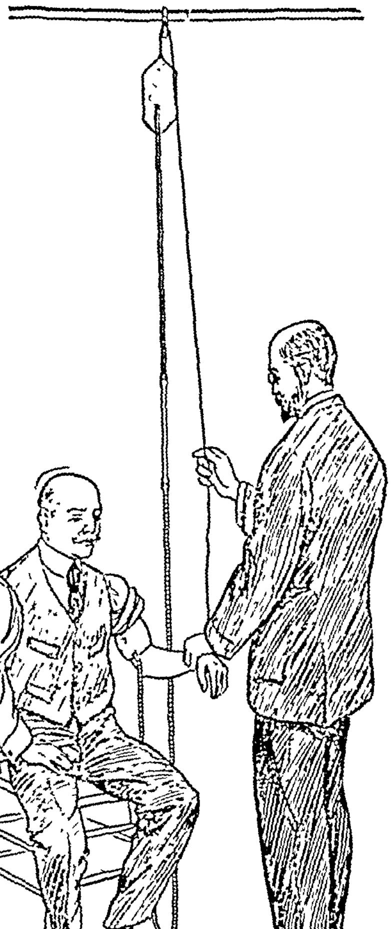
1. American Journal of Medical Sciences, 1843.

2. Ann. of Otol., Rhinol. and Laryngol., June, 1907.

> Otologic literature is singularly quite barren in regard to ear symptoms in arteriosclerosis. . . . I can accentuate an opinion quite freely expressed and believed, that many ear symptoms, too often considered as purely local, are the local expression of a general disease. Therefore, a tinnitus and slight deafness, with slight loss of bone conduction, may be of far deeper significance than simply disease of the perceiving apparatus, and for this reason we should go deeply into the etiology of slight deafness, possibly blocking thereby the march of a general disease, which ultimately may harass, if not annihilate the individual.

I find the literature on this subject is very scanty and I attribute it to the fact that the critical study of the circulation as contrasted with the study of the heart alone has not been general up to the present time. The question of low arterial tension has been particularly neglected, and the tendency has been to omit from consideration the physiologic condition of the blood vessels, while paying undue attention to their physical condition. The mistake has been made of always attributing an over-abundance of blood in a part to high blood pressure, while in fact relaxation of the blood vessels is a frequent cause. Murmurs are produced not by a constriction as such, but by a relative constriction, and a relative constriction can be brought about by dilatation, which causes the normal part of the vessel to act as a constriction. From this it is easy to understand why relaxed vessels produce a great deal of noise.



Detecting low blood pressure by the author's hydrostatic method.

In a recent article, Dr. Alfred Stengel[3] says:

> All of these symptoms will be recognized as occurring in the group of conditions caused by compression of the carotid arteries and also among the manifestations of gross cerebral thrombosis. When one or the other occurs as a more or less isolated symptom in a case of arteriosclerosis, one hesitates to regard it as due to this cause alone, and very properly inclines to think it a part of some more definite focal, cerebral or visceral condition not yet fully developed. In many instances further symptoms may occur, and a cardiac, gastric, aural or local cerebral cause may be recognized. Sometimes, however, such symptoms recur repeatedly and no further developments take place until perhaps with increasing cerebral sclerosis more distinct results follow.

Dr. W. Sohier Bryant, in an article on "Tinnitus Aurium," says: "Bilateral equal tinnitus indicates a constitutional cause, while bilateral unequal tinnitus located in the two ears indicates a local cause." Tinnitus with defective hearing may naturally be concluded to come from the ear itself. Circulatory tinnitus is frequently synchronous with the pulsation of the heart, but not always so.

There is no class of individuals subject to more supposed local disease than those who suffer from a constitution of low arterial tension. This is a condition which I first described[4] in 1904, and which refers to certain types of circulation. To quote a brief description from my own little book on "Heart Disease and Blood Pressure:"

> It will be found that there are many patients who give evidence, on the most casual examination of the circulation, that the tension in the arteries is very slight, and in some this will be found a constant condition. It is surprising how little tension there can be in the radial pulse without the patient suffering from any symptoms of circulatory disease.
>
> This low arterial tension in otherwise apparently healthy individuals is undoubtedly a departure from the normal. It may be due to an unusual relaxation of the peripheral circulation which makes it possible for the heart to do its work with but little effort. Some of these patients are generally feeble, lacking in nerve force and unequal to strains. Others, however, seem to respond to demands for physical or nervous effort, and when so responding there is an improvement in the tone of the circulation.
>
> When seen for the first time during some acute affection, this condition may give rise to apprehension on the part of the physician as to the outcome of the illness for which he has been summoned. When, however, the patient can be watched from year to year and is seen to get along perfectly well, even though there is this lack of tone in the circulation, the physician comes to realize that with that individual it is a physiologic condition.
>
> There is another form of low blood pressure that is much more dangerous, and that is the relatively low blood pressure which succeeds the high arterial tension of chronic Bright's disease. Here we have to deal with a most serious complication of the disease. It means that the circulation is no longer maintained by the heart. Thus, it may be stated, that low arterial tension may exist in certain individuals without great significance, but that if it has been preceded by high arterial tension it is a factor of grave import. With this condition we have nothing to do in the present discussion, but rather with low arterial tension that is a reflex of a constitutional condition.
>
> Experience has shown that nothing is gained with these individuals by the use of drugs to increase arterial tension. It is quite possible to make the pulse for the time being approximate the normal; indeed, this often happens spontaneously when the heart and circulation are physiologically stimulated by exercise or fever.
>
> The condition is, in all probability, due to an inherent defect in the nervous system, whereby it does not exercise the proper control over the blood vessels. The same patients who suffer from this low arterial tension are very apt to manifest other symptoms of defective nervous control, and the removal of the underlying condition will bring about an improvement in the circulation.

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[3] Vertigo, Temporary Aphasia, Ocular Disturbance and Tinnitis with Cerebral Arteriosclerosis, Am. Jour. Med. Sci., February, 1908.

[4] New York Medical Journal, June 11, 1904.

The most important element of treatment is systematic exercise. These patients are often dependent for their well-being on regular physical exertion. Often they feel much better if they can take a brisk horseback ride every day, or some other form of stirring exercise. There are other cases in which it is found that iron and arsenic improve the condition when it becomes very marked. In still other cases very hot baths take the place of vigorous exercise and improve the tone of the circulation. It should be remarked that this is a secondary effect, because, if the circulation be examined immediately after the bath, it will be found to be more relaxed than usual.

Although one would expect beneficial results from cold bathing, it is found by experience to be unsatisfactory in cases of constitutional low arterial tension. Such subjects do not react, and the effect is not satisfactory.

These observations refer to a class of patients who are not suffering from any definite disease, but who realize that they are not the same as other people. They have probably been told that they are suffering from a variety of diseases, according as the phenomena were supposedly traced to one or the other organ. To them may be applied the rather trite remark that they are suffering from a condition rather than a disease, and such patients are fortunate if they come under the care of a practitioner who will appreciate this fact. The worst thing that can happen is that there should be repeated efforts to cure supposed disease by different men succeeding one another.

In this class of cases I have found ear symptoms consisting of a sense of fulness with slight tennitus at times which has cleared up entirely under the regular régime. A typical case of acquired low arterial tension was as follows:

History.—E. B., a woman, aged 50, consulted me five years ago, complaining of the following symptoms: She had been in good health until about a year previous, when she commenced to run down, feeling unable to undertake much physical exercise, losing her breath on exertion and as she expressed it "did not digest her food well." For the past three or four months she had had a puffing sound in her ears, which she described as synchronous with the pulse.

My clinical diagnosis from physical examination and laboratory findings coupled with the history, was myocarditis with relaxed peripheral blood vessels.

Treatment.—This patient's symptoms were relieved by sodium iodid and digitalis, with attention to diet, graduated exercise and hydrotherapy. Her condition was so improved that under supervision she has gone on ever since with only an occasional return of her symptoms.

The number of patients with ear symptoms that come to me as a cardiologist is naturally very much smaller than would fall into the hands of the otologist. I am particularly interested in the discovery of low pressure cases with ear symptoms, and during the three or four months before I have to read this paper I am going to ask some of my friends among the aurists to examine all their cases as to blood pressure with the hydrostatic machine devised in my laboratory that makes these observations very simple.[5]

In conclusion, I am led to believe that:

1. There are certain cases of tinnitus aurium which are a local manifestation to general circulatory disorder.

2. This may have its foundation in arteriosclerosis, but the blood-vessel disorder is often, in a large measure, functional.

3. It is found in connection with high blood pressure and also with low blood pressure, and while in both instances the symptom is relieved by measures which regulate the circulation, the most striking results of treatment are to be obtained at the present time in instances of low arterial tension.

4. Observations of blood pressure to detect the gross departure from normal should be made by otologists; they can be made in a very few seconds by the author's simplified method.

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ABSTRACT OF DISCUSSION.

Dr. J. A. White, Richmond, Va.: Little importance has been laid on variations of blood pressure as a causative factor in the production of tinnitus. I doubt if any reference can be found to the effects of low tension, except the venous hum, found occasionally in anemia, and more especially in those cases which are supposed to have an abnormal displacement of the bulb, upward and forward towards the tympanic cavity, and the noisy pulsation of the carotid, when it is displaced upward and backward toward the drum. In such cases, however, the abnormal perception of the vascular sounds may be due to hyperesthesia of the labyrinth, just as there is hyperesthesia of the retina in some cases of photophobia without any apparent pathologic change. Tinnitus may be due to any interference with the function of the sound-perceiving apparatus, or to any changes about the sound-conducting apparatus; or, in the absence of either of these conditions, it may be due to reflex cause, as, for instance, a spur in the nose. Why should the ear be exempt from the pernicious effects of long-continued alteration in the blood pressure, even when there are no other decided symptoms of cardiovascular disease? Is not the renal complication of such a condition often its result rather than its cause? Osler thinks that this is so in many cases.

Lithemia sometimes brings about contraction of the circulation resulting in hyperemia or ischemia with venous stasis. If the sound-perceiving apparatus is involved, the consequent irritation may cause noises, which need not necessarily be synchronous with the pulse. Quinin and salicylates cause tinnitus, probably by producing hyperemia of the labyrinth, as they increase the blood tension until actual toxic effects are manifested, when the tension is reduced. If this is true, why can not alterations of blood tension due to imperfect nutrition, defective elimination, etc., give the same effects? I have known tobacco to produce tinnitus.

I have had the tension taken in twenty cases of tinnitus in the last two weeks, five of which were cases of low tension, 100, 103, 105, 108 and 110, respectively. In two only the noise was synchronous with the pulse. Of the other cases, one had a tension of 121 and the rest ranged from 140 to 200. One patient, 70 years old, tension 170, had had noises in the ear for twenty years, intermittent in character, without any impairment of hearing. Another with tension of 200 and hearing 1/3 had thumping, throbbing noises synchronous with the pulse for four years in the best ear, while the other, almost totally deaf, had no tinnitus. A woman, 50 years old, tension 170, had the same kind of noise for three weeks with slight impairment of hearing only. Another, with tension of 170, had had intermittent clicking noises in the left ear for three months, with absolutely normal hearing. Thus only four of the twenty had tinnitus synchronous with the heart-beat, two with low and two with high tension. The character of the noises differed in all of them and seemed quite independent of the extent of the deafness or the extent of the alteration in blood pressure. The woman above mentioned was put under treatment to reduce the tension, and when it came down to 140 the noise disappeared. Eleven patients, then, had tension ranging from 140 to 200, and none had kidney disease or marked heart lesions, apart from slight hypertrophy, although one was 70 years old. None of the others were over 56. Probably these will later show more decided signs of arteriosclerosis. The five patients with low tension, of whom only two were women, were all under 35 years, except one, and all of them apparently perfectly healthy. These cases were distinctly of the neurotic type. My results in this small number of cases would indicate that there is abnormal blood tension in nearly all cases of tinnitus, but also that more extensive investigations and more accurate data are necessary to make it possible to draw any satisfactory conclusions as to the influence of blood pressure in these cases, or to determine its value as an aid to diagnosis.

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[5] See article on "Arteriosclerosis," Wood's Reference Handbook of the Medical Sciences, Revised Appendix, 1908.

Dr. C. F. Welty, San Francisco: I am opposed to this theory of tinnitus because otosclerosis, tubal stenosis, adhesive processes of the tympanic cavity, adenoids, tonsils, malformations and pathologic change in the nose or nasal pharynx will account for all cases. Arteriosclerosis of necessity associated with high blood pressure does not produce tinnitus, but produces labyrinthine deafness, dependent on disease of the arterial walls. In one case it will be interstitial nephritis; in another a cerebral hemorrhage. In still another the labyrinth will be most seriously affected. The causes of tinnitus, when it is associated with arteriosclerosis, are dependent on some other lesion than arteriosclerosis. Low blood pressure, as in shock, loss of blood, recovery from acute infectious diseases, anemias, the latter stage of chronic disease, may produce tinnitus, but of transient duration, dependent on the physical condition, and when corrected the tinnitus will disappear. The tinnitus of otosclerosis is not benefited by treatment. In a series of over a hundred cases treated in Politzer's clinic by myself and other assistants by the hot-air hood applied to the head, including the neck, we did improve these cases, but only for a short time. The tinnitus of one ear is dependent on lesions in the ear itself, in the tube, in the nose or throat. Ear noises associated and synchronous with the heart-beat have been observed and have been accounted for in various ways. I am absolutely convinced that low blood pressure has nothing to do with it at all.

Dr. Louis F. Bishop, New York: In certain cases, if this symptom is due to circulatory causes, it might be a means whereby one might anticipate graver damage to the structures inside of the head. Of course, this does not apply to low tension cases, because in low tension cases (except secondary low tension) there is no particular danger of any such thing happening. In high tension cases the structures and nerve supply of the eye are often the first to suffer in a way that is noticed by the patient, and the oculist discovers a great many cases of high arterial tension that have gone untreated because there were no previous subjective symptoms. Now is it not true that in some cases there is damage to the structures associated with the ear that give ear symptoms early, and that the otologist discovers certain cases of high arterial tension that should have been under the care of some physician long before? I think it must be true, because so many of the patients that I see with cardiovascular disease have had ear symptoms for a number of years, and these symptoms have been so coincident with the development of these circulatory troubles that I feel convinced that there is some connection. Of course, it may be a degeneration of the ear, coming at the same time with the degeneration of the circulatory apparatus, a mere accidental relation. I feel there is more in this subject than has come out this afternoon, and that we shall find that the ear symptoms of cardiovascular disease will, if carefully observed, lead to the treatment of some patients who would otherwise be neglected.

Clinical Notes

ABNORMAL POSITION OF RIGHT FALLOPIAN TUBE AND APPENDIX.

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The following case is of particular interest, not so much on account of the abnormal position of the appendix, as on account of the coincident abnormal position of the right tube.

The three causes of abnormal position of the appendix are: first, an abnormal length of the mesentery; second, arrested fetal development, and, third, inflammatory conditions.

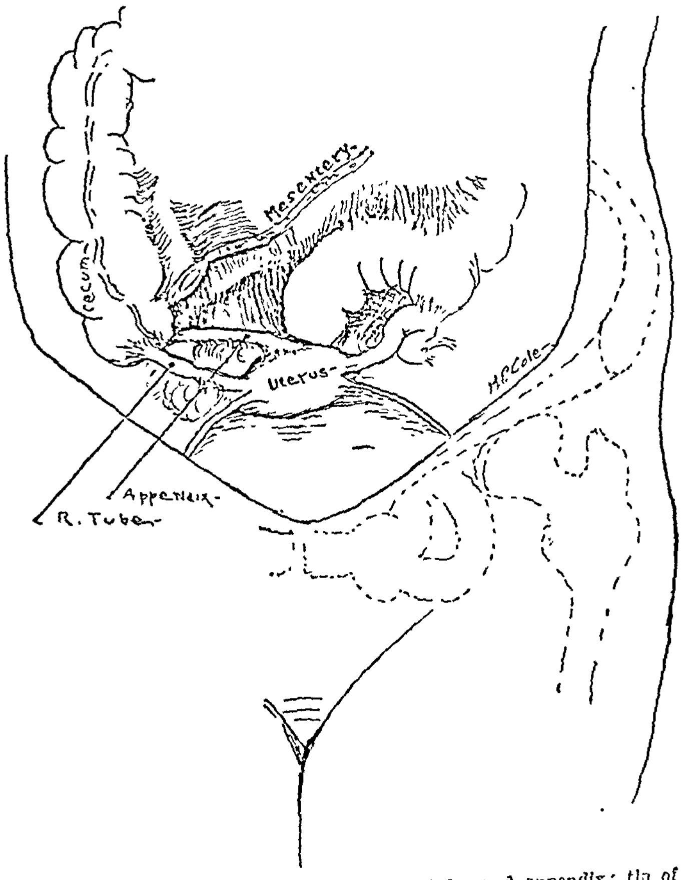
In this case the mesentery was not elongated and the position of the appendix is best explained by a salpingitis following a definite history of pelvic infection shortly after marriage. At some subsequent period an exacerbation of the pelvic condition resulted in the adhesion of the tube to the cecum. The extension of the perisalpingitis to an appendix normally dipping toward the pelvis resulted in an inflammation of the appendix with adhesions of the appendix to the uterus.

The appendix normally assumes the pelvic position in about 25 per cent. of cases (Kelly); and this position is more frequent in women than in men (Robinson).

REPORT OF CASE.

Patient.—Mrs. M., white, aged 39, admitted to the City Hospital, Mobile, Ala., Feb. 1, 1908, complaining of painful and frequent periods, pain in the right side and constipation. Family history was negative and past history unimportant up to time of marriage.

Present Illness.—This dates from marriage, sixteen years ago. Within the first year of marriage the patient gave a definite history of gonorrheal infection, followed by pelvic pain and increased temperature, with resultant dysmenorrhea. There were several attacks of pain in the right lower abdomen, associated with increased temperature during the past five years. Constipation had been severe for five years. The patient had never been pregnant.



Abnormal position of right Fallopian tube and appendix; tip of appendix adherent to the middle of the fundus on the posterior uterine wall; tube adherent to the cecum at the point of origin of the appendix.

Examination.—The right lower abdomen showed slight prominence and on palpation there was slight rigidity of muscles. On deep palpation muscle spasm and pain extended toward the median line. On vaginal examination the uterus was seen to be drawn slightly to the right, slightly retroposed. The left tube and ovary were apparently normal. The right tube and ovary were not palpated, but a thick mass was found projecting to the right from the right side of uterus. There was no fluctuation. A profuse leucorrheal discharge was present.

Operation.—On Feb. 10, 1908, right salpingo-oophorectomy and appendicectomy were performed. On opening the abdomen the left tube and ovary were found fairly normal except for a few adhesions from tube to ovary, and from the posterior distal extremity of the tube to the sigmoid. As the tube was patent and the ovary normal they were both left intact; the fine adhesions were freed and the coarse adhesions to the sigmoid separated between catgut ligatures. On the right a mass was found extending from the cecum to the posterior uterine wall. This was found to be composed of the appendix, right tube and ovary. The appendix was adherent at its tip to the middle of the fundus on the posterior uterine wall. Between the appendix and the tube the ovary was found enlarged, and contained a hemorrhagic cyst 3 cm. in diameter. The tube, slightly enlarged, ran directly to the base of the cecum and was adherent to the cecum at the point of origin of the appendix. The entire mass was removed. First the tip of the appendix was freed which necessitated a V-shaped incision in the posterior uterine wall, so firmly was the appendix adherent. The incision in the uterus was closed with catgut; the appendix was removed by the usual purse-string method. The tube and ovary were removed by the usual method after freeing adhesions. The raw surfaces in this broad ligament were whipped over with running catgut sutures. All raw surfaces were closed over. The omentum was stitched to the broad ligament by two interrupted catgut ligatures. Closure was made without drainage. Recovery was uninterrupted.

Postoperative History.—On July 19, 1908, the patient's symptoms had been almost entirely relieved, especially the constipation. The patient had gained in weight.

Diagnosis and Description of Condition.—Subacute salpingitis (right), perisalpingitis, hemorrhagic cyst (right), and chronic obliterative appendicitis. The tube showed the usual picture of a subacute salpingitis; there was an unusual number of eosinophiles in the wall. The ovary, slightly enlarged, showed a thick capsule and contained a hemorrhagic cyst, 3 cm. in diameter. The ovary was covered by adhesions. The appendix, also covered with adhesions, was 11 cm. in length and had undergone fibrous degeneration in its full extent except its inner 3 cm., which contained a fairly normal mucosa.

Howard Kelly mentions a case of a negress in whom the appendix was strongly adherent to the right side of the uterus posteriorly.

J. B. Murphy[1] records an instance in a young woman in which the cecum was drawn over toward the uterus and fixed by an appendix which was much elongated and adherent to the uterus.

Strangulation occurred in both these cases.

D. T. Quigley[2] mentions a case in which the tip of the appendix containing a localized abscess was found to be adherent to the right side of the uterus, the right Fallopian tube in this case being folded back over the appendix.

202 Conti Street.

SIALOLITHIASIS.

P. A. BENDIXEN, M.D.
DAVENPORT, IOWA.

The condition leading to the formation of salivary stones is a rare one which affects the salivary glands less often than their excretory ducts.

Patient.—M. W., aged 16, school-girl, came to me Sept. 28, 1907. Her family history was negative.

Personal History.—The patient had had mumps, measles, chickenpox and whooping cough when a child; tonsillitis nearly every year up to seven years ago, when the tonsils were removed. She had had enlarged glands on right side of neck for about five years.

Examination.—Temperature was 98.9, pulse 90, respiration 18. Inspection showed a marked, diffuse and painful swelling on the right side of the neck and lower part of face and a cord-like swelling underneath the tongue on the right side. The mass on the right side of neck and lower part of face was very firm and extremely tender to pressure. The cord-like swelling on the right side of the tongue was also very firm and tender to pressure. On the following day the external findings were about the same; but the cord-like swelling on the right side of tongue was somewhat larger, especially at the base of tongue, and a distinct impulse of fluctuation could be obtained. By rather firm pressure I was able to press out some phlegmonous material from Wharton's duct. In the region of the outer third of the duct I felt an elongated and rather hard mass which was somewhat movable. I introduced a probe and got a grating sensation. A diagnosis of a foreign body in Wharton's duct was made.

Treatment.—With this diagnosis in view, I attempted to milk out the foreign body from the duct. After a few minutes' milking I succeeded in getting the foreign body out, and with it a considerable amount of necrotic material.

Later History.—The pain which the patient had subsided in a few days, and up to the present time she has had no further trouble. The swelling on the right side and in the glands has totally disappeared.

Concretion.—This was somewhat elongated, oval in shape, measuring 9 mm. in length and 5 mm. in diameter and weighing 2 grains. Its color was grayish yellow, and its consistency so hard that it could not be scratched with the finger nail. At one end was a cavity which extended about one-third of the way into the concretion. This cavity may have been the seat of a foreign body, which determined the formation of the calculus and later decomposed.

Calculi are found in all the salivary glands, not very frequently, yet often enough to cause one to be on the lookout for their presence.

In 1896 Fütterer collected the reports of 160 cases. Roberg in 1904 added forty-seven cases. Jarecky in 1905 collected three more cases and described three additional cases of his own. Since then I have found two additional cases in the literature, making the total, including my one case, 216 up to date.

Salivary stones occur most often in persons between the ages of 20 and 40 years. Burdel reports the occurrence of a calculus in the sublingual duct of a child aged 3 weeks. In this case there had been difficulty in nursing, and it is reasonable to conclude that this was a congenital case. Males are more often affected than females, the proportion being about two to one according to Czygan. According to Buckwald and Wenzel. 61.4 per cent of all salivary stones belong to Wharton's duct and the submaxillary glands; 20.4 per cent. to the parotid gland and duct; and 18.2 per cent. to the sublingual and their excretory ducts. The size and number of salivary stones vary considerably and stand in a direct relationship to one another. The greater the number the smaller the concretions. Puzey reports a case in which the calculus was one and one-half inches in length and one-half inch in thickness and weighing 115 grains. The average size, however, is from that of a split pea to that of a date-stone. They usually occur singly. Recurrences may take place, but rarely. Out of the forty-seven cases collected by Roberg there were five recurrences; one had three recurrences in twenty-two years; one, two recurrences; two, one recurrence.

The diagnosis of a salivary calculus is easily made as a rule, especially if there is a history of salivary colic or if the concretion can be felt with the finger or probe. If one can not feel the stone with a probe on account of its deep position or the marked swelling of the mucous membrane of the duct, one may pass an exploratory needle into the suspicious site. The report of Alsberg and Gerota have shown that the Roentgen rays may be used to some advantage.

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[1] The Journal A. M. A., March 3-24, 1894.

[2] The Journal A. M. A., May 30, 1908, p. 1791.

The prognosis in all cases is favorable. The pain and swelling subsides as soon as the calculus is removed. Mareau has pronounced sialolithiasis "an affection generally more inconvenient than dangerous." Yet the condition should not be looked on as an innocent disease, for the disturbance at times is considerable.

The treatment in such cases should be the removal of the stone through the mouth if possible, but exceptions must be made to this rule.

These exceptions are to be made in the following cases: First, those in which an external fistula leads to the concretion; second, those in which the stone lies in an external abscess cavity; third, those in which the submaxillary or parotid gland itself is the seat of the calculus. As a rule the removal of the stone through the mouth is very simple, provided that the stone is freely exposed or lies directly behind the orifice of the excretory duct, in which case it will only be necessary to divide the overlying tissues and grasp the stone with forceps. A stone lying directly behind the orifice may be pressed out. Local anesthesia only is necessary as a rule. At times when there is difficulty in removing the stone and bleeding is profuse, general anesthesia may be required. After the stone has been removed the wound requires no further attention and the after-treatment merely demands that the mouth be kept clean and frequently rinsed with antiseptic gargles.

Therapeutics

SUPPURATIVE CYSTITIS.

Dr. Victor C. Pedersen, of New York, in the *New York State Journal of Medicine*, July, 1908, describes the treatment of acute, subacute, and chronic suppurative cystitis.

The acute form occurs without retention of urine and with retention of urine. Cystitis in women is easier to handle than in men on account of vaginal hot irrigations being easier of application and more effectual than rectal irrigation, and also on account of the urethra in women making it easier to use a retention catheter, if such is needed.

The constitutional procedures in the treatment of acute cystitis are "rest in bed, a fluid and non-irritating diet, preferably milk or something similar, and free evacuation of the bowels with calomel and salines." Alcohol, tobacco, condiments, and even tea and coffee should be prohibited. The next objects in the treatment are "to dilute, neutralize and antisepticize the urine, to quiet vesical irritation and pain, and to decongest the entire pelvic region."

Dilution of the urine is accomplished by drinking plenty of water, hot or cold, up to the amount of two or even three quarts a day, viz., a glassful every two or three hours. Most of this water should be drunk between rising in the morning and 6 o'clock at night, and much less taken in the evening hours, so that the patient may not be caused to rise as frequently at night to urinate. Milk may be mixed with equal parts of vichy water; buttermilk, koumyss or *matzoon* may be substituted for milk if desired, or used interchangeably.

It should be the object to neutralize the urine, namely, to render an acid urine neutral, or if a urine is alkaline to render it neutral, as urine either too acid or too alkaline. Pedersen states, causes irritation. Consequently he would use in ordinary acute cystitis with acid urine the simpler alkalies, such as the bicarbonate of soda in daily doses of from 4. to 8. grams (1 to 2 drams), or the citrate of potash in daily doses of from 2. to 4. grams (30 to 60 grains), as:

℞.	gm.		
Magnesii oxidi	5	or	gr. lxxv
Sodii bicarbonatis	20		ʒv

M. et fac chartulas, 20.
Sig.: A powder, with water or vichy, every three hours during the daytime.

Or:

℞.	gm. or c.c.		
Potassii citratis	20	or	ʒvi
Aquæ	100		fl.℥iv

M. et sig.: A teaspoonful, in water, every four hours.

If the urine is alkaline, vegetable acids should be given, or perhaps more effective is hexamethylenamin (urotropin):

℞.	gm.		
Hexamethylenaminæ	10	or	ʒiiss

Fac chartulas, 20.
Sig.: A powder, in a glass of water, three times a day.

If it is advisable to use the hexamethylenamin, of course, it is one of the best antiseptics for the urinary tract that we possess. Or phenylis salicylas (salol) may be used, and if there is a rheumatic condition present, perhaps this is the best internal antiseptic. If salol is used, the dose should not be large and the urine should be watched *for any signs of phenol poisoning*, as salol breaks up into salicylic acid and phenol in the intestine. It may be given as follows:

℞.	gm.		
Phenylis salicylatis	5	or	gr. lxxv

Fac capsulas, 20.
Sig.: A capsule every three or four hours during the daytime.

A trace of albumin in the urine, or signs of kidney irritability, or backache that can be referred to a congestion of the kidneys, should prevent the administration of either salol or urotropin.

Generally in acute cystitis rest, a bland diet, the alkalies, and the local measures instituted will relieve vesical or urethral pain. However, it is often necessary to use a narcotic, as opium in some form, scopolamin (hyoscin), or belladonna. If the pain is severe, opium or morphin suppositories may be used. A combination of belladonna *with morphin is often* good treatment, as:

℞.	gm.		
Morphinæ sulphatis	|10		gr. iss
Extracti belladonnæ foliorum	|20	or	gr. iii
Olei theobromatis	20		ʒv

M. et fac suppositoria, 10.
Sig.: A suppository every six or eight hours, if needed.

Hyoscyamus in the form of the tincture is *often* used as a vesical sedative. It is a question whether it has any action differing from that of belladonna, or of a small dose of atropin. It may be used as follows:

℞.	c.c.		
Tincturæ hyoscyami	25	or	fl. ℥i

Sig.: *20 drops, in water, every four hours.*

The action of morphin is, of course, sedative to cystitis as it is to any inflammation. Atropin or any drug containing it, as hyoscyamus or belladonna, is sedative to the terminal endings of the nerves and seems to be especially sedative to the nerves at the neck of the bladder, and will relieve the constant desire to urinate that is so urgent in acute cystitis.

Pedersen also recommends the use of aconite in the form of the fluid extract in doses of 2 drops (1 minim) every two or three hours until the lips, throat and finger tips begin to tingle. After this he would give it at four-hour intervals. He finds the aconite "to allay the congestion powerfully and surely, not only in the bladder itself, but in the pelvis." Such sturdy use of aconite would seem not often necessary in cystitis, and even the use of any of the above nerve sedatives can often be avoided by the proper use of hydrotherapeutic measures, and saline purges should not be neglected. The hydrotherapeutic measures consist of the hot sitz bath, perhaps two or three times a day, and hot vaginal or rectal douches.

If in spite of the above treatment the cystitis persists or becomes subacute, bladder washings or even permanent drainage with the catheter remaining in position, especially in women, may be necessary.

When the vesical tenesmus is very severe and it is perhaps inadvisable to use morphin, Pedersen uses cocain, instilling from 10 to 20 drops of a 2 or 4 per cent. solution into the prostatic urethra or into the neck of the bladder. The possibility of unpleasant symptoms occurring from the absorption of cocain thus used should preclude its frequent use.

In subacute cystitis Pedersen instills into the region of the neck of the bladder 0.5 c.c. (7½ minims) of a 10 to 20 per cent. solution of argyrol, or a 5 per cent. solution of nitrate of silver, and he says that the relief from such instillations is sometimes "almost magical." He does not state how often such instillations should be used, but the usual frequency is from three to five days, depending on the stimulation such mucous membrane requires.

As acute cystitis improves, of course, the diet is enlarged, more food may be taken, and good sense exercised in the amount of walking that the patient should do. The continuance of urinary antiseptics will depend on the cause of the cystitis or the infection, and it is always advisable to examine the purulent matter in cystitis as well as in urethritis to determine what germs are present. It may be advisable to diminish or stop the administration of any alkalizers of the urine, if such have been given, lest a urine that is continuously neutral or alkaline may not inhibit the growth of germs as does normal acid urine. If a genitourinary stimulant seems needed to complete the cure of the inflammation, santal oil, oleoresin of copaiba, and oil of gaultheria are suggested by Pedersen. The oil of gaultheria is another method of administering salicylic acid, and is, of course, a urinary antiseptic, and may be the best treatment. The oil of santal and the oleoresin of copaiba act similarly, except that the copaiba is more likely to cause gastrointestinal indigestion and has no advantage over santal oil. The santal oil may be administered in elastic capsules each containing 5 minims, and Pedersen advises the use of three of these a day, one after each meal.

The urine should be carefully watched during acute and subacute cystitis. If there are casts in the urine Pedersen advises against the administration of the antiseptics. Certainly it should prohibit the use of salol. Whether the same is true of hexamethylenamin is still open to discussion.

Pedersen quotes Dr. William H. Thompson as advising the use of benzoate of soda in 0.30 gram (5 grain) doses when it is inadvisable to use urotropin.

If the cystitis has passed the acute stage and tends to be protracted, irrigations are advisable and necessary, but, as Pedersen says, "it must not be forgotten that no means of irrigation that can be employed will penetrate the full depth within the mucous membrane reached by the inflammatory processes and by the infection." Whatever solution is used for irrigation, the following rules should be observed, viz.: never distend the bladder too forcibly, and always wash until the return fluid is clean. To further the first rule, Pedersen recommends the use of the hand syringe, of which the "Janet-Franck glass barrel syringe" he thinks is the best type. To carry out the second rule he insists on the use of test glasses which should be ready at hand to show when the washing solution is returned clear. It does not seem as though a graduated fountain syringe, elevated but slightly above the patient and the elevation regulated by the pressure desired, would do any harm. At first salt solution should be used, as a teaspoonful of salt to a pint of water, or a bicarbonate of soda solution, a tablespoonful to a pint of water, or a 1 per cent. boric acid solution. Later Pedersen would use for irrigation "weak solutions of potassium permanganate, as 1 to 10,000, increasing slowly to 1 to 4,000." Silver nitrate solutions may be used of 1 to 20,000 up to 1 to 5,000. "A soft rubber or flexible woven catheter" is the best to use, and the temperature should begin with the body heat and increase up to 110 F. After the washing is completed it is advisable to leave an ounce of fluid in the bladder, which will tend to prevent the vesicle tenesmus which often follows. If there is much pus in the bladder the irrigations should be done "twice daily, then once a day, and then every other day, and later every third day."

If there is retention of urine at any time during the cystitis the question of permanent drainage, either by a catheter or operation will have to be considered, permanent drainage with a retained catheter being perhaps better than frequent catheterization.

The treatment of chronic suppurative cystitis can only be carried out successfully by determining the cause of the condition. Whatever that cause may be, it should be removed if possible; then the best possible simple foods, gentle exercise, massage if deemed advisable, fresh air and free, daily movements of the bowels should be instituted, as any upset condition of the body will perpetuate chronic cystitis. Uric acid irritations or phosphatic irritations should be prevented if possible. Hot baths are advisable and over-tire should be prevented. Also there should be no opportunities for getting severely chilled, as chilling of the body will aggravate any cystitis.

If the urine is alkaline, as it generally is, the benzoate of soda or hexamethylenamin may be used, as above suggested It may be advisable at times to use salol, or it may seem best to use a stimulant, as oil of santal. Irrigations of the bladder may be necessary, and the same care should be exercised as stated above in acute and subacute cystitis. The irrigations may be given daily, or less frequently, as indicated by the amount of pus or decomposition present. If the cause of the condition is one that can be removed surgically, operation should not be long postponed, but the success of an operation is greater if the cystitis has been relieved to the greatest possible extent.

Importance of Pure Milk.—When we consider that milk constitutes practically the sole article of diet of infants and invalids, and enters into the dietary of all more or less, and that of all foods it is the most delicate and sensitive to bacterial contamination, it is surely time that we are waking up to the fact that it is at least as deserving of municipal control as is our water supply or light or power.—Charles J. C. O. Hastings in the *Canadian Practitioner and Review*, July.

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THE SERUM TEST IN HEREDITARY SYPHILIS.

According to the usual teachings, hereditary syphilis may result either by paternal or maternal transmission or from both these sources. It is generally taught, too, that the mother not only may pass on her own syphilis to the fetus, but that she may also be the means, as it were, of transferring virus without herself appearing to become infected. In the latter instance, in the light of our present knowledge of the etiologic rôle of the *Spirochæta pallida* in syphilis, it would be reasonable to assume that the semen from the syphilitic father is not in itself infectious but carries the spirochete which then perhaps might enter the ovum at the same time as the spermatozoon. There is much, however, that favors hereditary syphilis always being the result of syphilis in the mother. Thus, for instance, Welander in Stockholm has not seen a single case in which there was any probability that a woman free from syphilis gave birth to a syphilitic child. Another author (Edmanson) found that in 345 congenitally syphilitic children he could determine syphilis in 343 of the mothers and he concludes that the mother is the source of congenital syphilis. Matzenauer of Vienna expresses himself as being of the same opinion. This being the case, what about Colles' law?

Recent applications of the Wassermann test for syphilis to new-born children suspected of being syphilitic and to their mothers appears to throw some light on the question. Thus Bauer[1] found that of 201 new-born infants and nurslings examined at random, twenty-two gave a positive result with the Wassermann test; in all the cases that appeared clinically to be congenitally syphilitic the reaction was positive. His tests further showed that mothers of distinctly hereditary syphilitic children, although themselves apparently well and free from symptoms and without any history of infection, gave a positive reaction. Consequently there seems to be strong reason to conclude that the immunity of the mother postulated by Colles' law in reality does not exist, the mother, on the contrary, being the subject of latent syphilis. While it might be possible that soluble poisons from a paternally infected fetus could pass back to the mother and stimulate in her the formation of immune bodies, and while it is also possible that antibodies might pass directly from the fetus to the mother, we have no analogies of such occurrences so far as we know in other infections.

There is another law usually mentioned in connection with hereditary syphilis, namely, Profeta's law: When a woman suffering from syphilis in its contagious stage bears a child which shows no taint, that child may be suckled by its mother with impunity and will not contract the disease from her. This so-called law is not without exception. The serologic test here also has given results which indicate that apparently or nearly healthy children may have latent congenital syphilis, as the serum of seemingly healthy children of syphilitic mothers may give a positive reaction with the Wassermann test. On the whole, it would seem as if latent syphilis in the woman is the reason for the maternal immunity described in Colles' law, and that latent syphilis in children explains the instances of immunity in the offspring of syphilitic mothers covered by Profeta's law.

In case the Wassermann reaction continues to receive the credit at present accorded to it, so far as reliability is concerned, it no doubt will prove of great importance for the crucial examination of wet nurses and of nurslings as to their freedom from syphilis because it seems able to reveal the disease when all clinical symptoms are absent. By its means some light may be thrown also on the disputed question of syphilis in the third generation. But before final conclusions can be drawn from the results obtained with it, it will be necessary for us to know more definitely than we do at present the nature of the bodies in the serum of syphilitic patients that inhibit hemolysis by fixing the complement. It is not at all certain that these bodies are true antibodies for the syphilis germ, as is so generally taken for granted at present.

TUBERCULOSIS AMONG THE FOREIGN-BORN.

In Section V of the International Congress on Tuberculosis, the one concerned with the social and economic aspects of the question, the larger part of an afternoon's session was devoted to the discussion of the comparative frequency of tuberculosis among the foreign-born inhabitants of our country, and also among the Indians and the negroes. A striking agreement was evidenced both as to the facts and as to the interpretation of the facts. It seems that the Italians and the Greeks suffer more from tuberculosis here than in their own countries. Ireland has notoriously a high death rate from this disease, but, according to Flick, the children of Irish immigrants in the United States are even more susceptible than their foreign-born parents. In the case of the Italians, there is abundant proof that they do not bring the disease to this country but acquire it here. The medical inspection at Ellis Island is strict, and of those who pass it the greater number are undoubtedly in good health, and yet year after year the steamers carry back to Italy a large number of consumptives who are going home in the hope of recovering from the disease caught in our tenements and factories.

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[1] Wien. klin. Wchnschr., 1908, xxi, 1251.

It is said that a similar statement may be made concerning the Greeks. Greek immigrants are chiefly strong young adults, yet we are told that numbers of them return home infected with tuberculosis. Both the Greeks and Italians come from the peasant class and are accustomed to an out-door life, while here they enter factories and crowd into city tenements. Dusty trades and an indoor life produce the result we know now to be well-nigh inevitable.

At the other extreme from the Irish and southern Europeans stand the Jews, with their truly extraordinary resistance to this disease. That this resistance is not due to a lack of susceptibility to infection is indicated by a relatively high morbidity rate, but the Jew, though infected, does not succumb to the disease as does the Irishman or Indian.

Thus, we find that the statistics as to the death rate among the Jews and non-Jews, as given by Dr. Fishberg of New York, show an enormous superiority on the part of the Jews. In Berlin the rate per 10,000 living is among the non-Jews 21.6, among the Jews 9.8. In Vienna it is 49.6 to 17.9; in Cracow 66.4 to 20.4, and in New York the figures are 23.9 for the whole population and 17.2 for the Jews. This is the more remarkable when one considers the fact that the Jews are almost always city dwellers and the large majority live in extreme poverty in the most crowded and unhygienic quarters of the city, engaged in hard indoor occupations. They are usually under the average height, hollow-chested and of slight muscular development. Their immunity can only be explained as acquired by centuries of city life. For almost 2,000 years the Jew has been driven to city life, in consequence of which he has become "urbanized," and, therefore, the crowded tenement, the factory work, the home industries which are so detrimental to the descendant of centuries of peasant ancestors, find the Jew already acclimated; his race has endured similar conditions since the beginning of the Christian era.

The Irishman, the Italian, the Greek, who come to this country have never been urbanized and the increase of tuberculosis among them is a matter for serious thought. Commissioner Watchorn of Ellis Island gave some interesting figures illustrating the evil effects of our city life on these people. Of 129 foreigners who were admitted at Ellis Island free from signs of tuberculosis, but developed the disease within three years of their landing here, only twenty had been city dwellers at home, but 117 had lived in cities after their arrival in this country.

Mr. Watchorn believes that if tuberculosis exists in our foreign colonies it is to be attributed to the conditions under which the people are living and that the real responsibility rests on our municipalities.

ANAPHYLAXIS.

Studies in anaphylaxis have not only a remarkable theoretic interest but promise to produce important practical results. A number of conditions may be grouped together as having, probably, the hypersusceptibility of the organism to certain foreign substances as their basis. The best known instance of this is a sudden death in man after the injection of horse serum in the form of diphtheria antitoxin. The symptoms in the reported cases have been closely related to asthma, and it has been suggested that the offending substance acts on the respiratory center. Local vasomotor paralysis is also probably a factor and allies these conditions with others in which a sudden edema of some part of the body is a prominent symptom. Among these conditions may be classed edema of the lungs, angioneurotic edema, and possibly urticaria. The peculiar symptoms evoked by eggs in some individuals are probably instances of anaphylaxis. It has also been suggested by Rosenau and Anderson[1] that some cases of puerperal eclampsia can best be explained by anaphylaxis from an autolytic placenta.

The further studies made by these investigators throw some light on this hypothesis, as well as on the general theory of anaphylaxis. They subjected female guinea-pigs to injections of autolytic placenta which sensitized them to such a degree that second injections produced toxic symptoms including convulsions. They also found that a period of incubation of about seven days is manifested in the development of anaphylaxis. The animals once sensitized remain so for a long time, two years in guinea-pigs. The sensitizing principle is gradually influenced by heat and disappears almost entirely when horse serum is heated to 100 degrees C. for one hour. The toxic principle is also gradually destroyed by heat. It does not appear to diminish with the age of the serum. Attempts to neutralize the toxic action of horse serum have so far been unsuccessful. Various experiments have shown the specific nature of anaphylaxis. For example, guinea-pigs sensitized with horse serum, egg white and cow's milk contain three separate anaphylactins in their blood. There appears to be a group reaction in the proteins of widely different species or between proteins of widely different origin. Guinea-pigs sensitized with sheep's milk react to a subsequent injection of cow's milk, but those sensitized with dog's milk do not. A substance known as anaphylactin is present in the serum of sensitized or immune guinea-pigs, but has not so far been found in the blood serum of man, the monkey or the cat.

The sudden deaths following the injections of horse serum have attracted wide attention. Naturally the suspicion arose that these serums contained some unusual poison. The experiments of Rosenau and Anderson have shown, however, that the horse serum used in these cases is no more toxic for guinea-pigs than is antitoxic horse serum used extensively in human therapy without untoward symptoms. It seems evident that it is not the serum that is unusually toxic, but the individual who is unusually sensitive. In what manner man may thus become sensitized to a foreign poison is not known.[1]

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[1] Further Studies on Anaphylaxis, Hygienic Laboratory Bulletin No. 45.

The association of asthma and hypersusceptibility to horse serum suggests a relation that should be borne in mind in the administration of antitoxin. It is to be hoped that the prosecution of further researches on this subject may result in the discovery of a means of preventing such accidents and possibly of a remedy for the sensitive individuals who suffer from asthma, angioneurotic edema and similar conditions.

THE NERVOUS SYSTEM AND TUBERCULIN REACTIONS.

One of the most interesting of the recent contributions to our knowledge of tuberculin reactions is described in a recent article by Moro.[2] Working in Pfaundler's clinic in Munich with the so-called percutaneous tuberculin reaction (rubbing in tuberculin-lanolin), Moro obtained results which indicate the probable participation of the autonomic or sympathetic nervous system in the reactions. Thus in several children the ointment yielded a reaction not only at the site of application but also in a contralateral skin area situated exactly symmetrically to the spot inoculated. Again, in other children, besides the reaction at the spot anointed. scattered areas of reaction appeared in the skin at points widely separated from the inoculation site. If, for example, the tuberculin-lanolin preparation was rubbed into the skin of the abdomen, typical efflorescence appeared next day not only there but on the chest, back and neck, that is to say, in regions with which no tuberculin had been in contact. Still further, inunction was occasionally followed by a unilateral, girdle-like zone of reaction extending from the spot of application backward to the vertebral column and forward to the ventral median line.

It seems obvious that these reactions at a distance can not be due to a direct toxic effect of the tuberculin on the tissues in which the reactions occur but depend on nervous influences in which the spinal cord participates, though the main rôle must be ascribed to the sympathetic system.

From these observations, and others on which we can not here dwell, Moro has come to the conclusion that the percutaneous tuberculin reaction is essentially a vasomotor phenomenon due to strong excitation of vasodilator paths. He looks on the reaction as an angioneurotic inflammations—a kind of "late reflex" in the sense of Kreibich.[3]

If this view be correct it will be hard to avoid the inference that in people infected with tuberculosis there exists a specific irritability of the nervous system toward tuberculin, in other words, a specific nervous "allergy." Moro's results are most interesting and will doubtless stimulate further research along similar lines.

BREAKFASTLESS SCHOOL CHILDREN.

Considerable discussion—not a little being sensational—has appeared recently in the newspapers on the question of underfed school children, mainly aroused by the reports of sanitary inspectors that large numbers go breakfastless to school. The first remedy that occurs to many zealous social reformers is to supply free meals, the assumption being that the conditions are due to poverty. Without doubt, in a great city, there are always some children who go hungry to school, on account of actual lack of food; in this country, however, we believe they are few and far between. Such should be cared for by the proper charitable agencies, and not through the school. Looking at the subject from a purely medical point of view, poverty is not the cause in more than an extremely small minority of the cases of those who go breakfastless. Every physician is aware of the capricious morning appetites of children who are physically below grade from any one of numerous causes, and this is especially likely to be the case with those living in the urban slums and crowded tenement districts. Any dispensary physician or visiting nurse will testify to this fact. In a recently issued edition of a work on the British poor,[1] the author says that a large proportion of the children, if asked why they had no breakfast, would say it was because they did not want it, or often, in case of the younger children, because their mothers could not make them take any. The cause in many cases lies farther back than the mere lack of food, which is often plentiful enough; it is generally the unhygienic customs and conditions of the poorer classes that are the real cause. It is not in the poor alone, moreover, that we observe these irregular appetites; they are common enough in the children of the comparatively well-to-do, but the condition appears in a more aggravated form in a bad hygienic environment. The practice of giving children stimulants, such as strong coffee and tea, the heavy evening meals and meals at irregular hours, sleeping in crowded ill-ventilated rooms, etc., are all active factors in producing capricious appetites, and they should all be taken into account when seeking a remedy. There would be little use in spending public money for free meals for children who do not want to eat in the early morning.

THE TEETH OF SCHOOL CHILDREN.

Medical inspection of schools is so recent that it is rather early to draw conclusions from it. The earliest examinations were directed to the discovery of contagious diseases, but recently the work of the inspector is demanded more in relation to pedagogy than to the interests of the public health. Problems of mental and physical development must be taken up and attention must be paid to those organs that are of special importance in the securing of education. Consequently it is as necessary to discover physical defects of the eyes and ears and general nutrition as the presence of streptococci in the throat or pediculi on the scalp. While defects of vision probably rank first in their influence on the mentality, they are not so frequent nor are they so important with reference to general nutrition as is the condition of the teeth. According to J. E. Laberge,[1] among 50,000 children inspected in Montreal, 1,333 were found with defective vision while 13,385 had decayed teeth. Inspections in the Chicago schools give about the same proportion. Decay of the teeth is likely to be passed over lightly as an inevitable defect of little importance. Its importance should not, however, be underrated, as it is likely to have an unfavorable effect on nutrition and incidentally on mental development. That such decay is largely preventable goes without saying.

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[1] The Journal, Oct. 3, 1908, p. 1158.

[2] Klinische Ueberempfindlichkeit. I Mitteilung. Tuberkulinreaction und Nervensystem. Munch. med. Wchnschr., 1908, 2025-2028.

[3] Kreibich, K.: Die angioneurotische Entzundung, Vienna, 1905.

[1] Loane, M.: The Next Street but One, London, 1908.

Medical News

CALIFORNIA.

Honors to Sanitary Officers.—Dr. Rupert Blue. U. S. P. H. and M.-H. Service, was given a gold cigarette case and gold match box, October 3, at a dinner given in his honor by the members of his staff. Dr. William C. Rucker, his chief executive officer, was also given a gold watch.

Tuberculosis Dispensary.—The San Francisco Society for the Study and Prevention of Tuberculosis announces that a dispensary will be opened about the end of this month, to be maintained by private contributions. The society has also arranged a course of lectures on the general subject of tuberculosis.

Health Officers Meet.—At the twenty-sixth semi-annual meeting of the Central California Health Officers' Association in Fresno, October 13, a resolution was passed asking that efforts be made toward affiliation with similar organizations in the northern and southern portions of the state, with a view of the united associations seeking an appropriation of $100,000 from the state legislature to be used in the prevention and extermination of typhoid fever.

Society Meeting.—At the annual meeting of San Joaquin Valley Medical Association, held in Fresno, October 13, the following officers were elected: President, Dr. Samuel W. Langdon, Stockton; vice-presidents, Drs. Charles R. Harry, Stockton; Benjamin F. Walker, Stockton; and Thomas DeH. Blodgett, Tulare; secretary, Dr. Dwight H. Trowbridge, Fresno; assistant secretary, Dr. William W. Cross, Jr., Fresno; and treasurer, Dr. Thomas M. Hayden, Fresno.

Quarantine Lifted.—By direction of Surgeon General Wyman, P. H. and M.-H. Service, to Drs. Blue and Hobdy, the quarantine against vessels leaving San Francisco harbor was removed October 21. For the first time in fourteen months, ocean-going crafts are able to come and go without rat guards, dock fenders, and periodic fumigation. The federal quarantine officer closed his office October 22. The fumigating barge has been dismantled and towed to the quarantine station, and the men employed in fumigating vessels have been discharged from duty.

Vital Statistics.—During September, 2,369 deaths, exclusive of still-births, were reported for the month, or 46 fewer than for August, the annual death rate being 14.3 per 1,000. Of the deaths 358, or 15.1 per cent. were from various forms of tuberculosis; 331, or 14 per cent., from diseases of the circulatory system. Among the notable causes were diseases of the digestive system, 282; violence, 263; diseases of the nervous system, 191; diseases of the respiratory system, 163; cancer, 144; epidemic diseases, 132. Typhoid fever caused 61 of the deaths from epidemic diseases, diphtheria 25, malarial fever 14, whooping cough 10, and other causes 22.

The Sick and Afflicted.—Dr. Arthur M. McIntosh, Berkeley, who was operated on recently for appendicitis in San Francisco, is convalescent and expects soon to resume practice.——Dr. Joseph D. Davidson, Fresno, is reported to be critically ill in Adler Hospital, San Francisco.——Dr. Walter D. Stannard, Lodi, was seriously injured by falling from his bicycle October 6.——Dr. John M. Dunsmoor, assistant superintendent of the Los Angeles County Hospital, was held up and robbed October 12.——Dr. William W. Fitzgerald, Stockton, was operated on in St. Joseph's Home, October 14, and is reported to be doing well.——Dr. Augustus F. Schafer, Bakersfield, who was operated on for appendicitis, September 17, has recovered and resumed practice.

Personal.—Dr. Walter W. Cross, Jr. has been appointed city bacteriologist of Fresno.——Dr. Irving R. Bancroft has been appointed second assistant city health officer of Los Angeles.——Dr. Luther M. Leisenring has been elected president of the recently appointed board of health of Placerville.——Drs. William H Wallace, Charles C. Falk and John N. Chain are the medical members of the new board of health of Eureka.——Dr. John Mallery has been appointed city physician and health officer of Eureka, and Dr. Eugene Falk deputy.——Dr. Eugene H. Reed and wife, Tuolumne, expect to leave for Europe, January 1.——Dr. Sidney R. Daunenbaum, San Francisco, has been appointed professor of theory and practice of medicine and clinical medicine in the College of Physicians and Surgeons, San Francisco.——Dr. William M. Stover, San Luis Obispo, has returned from Europe.——Drs. Arthur C. Smith and George Reinle have been appointed assistant surgeons in the Receiving Hospital, Oakland.

Hospital Notes.—At the meeting of the Monterey Peninsula Hospital Association, October 15, the finance committee reported that $870 had been subscribed up to date.——The treasurer of San Francisco delivered to the Rollins-Harris syndicate, October 22, $280,000 in hospital bonds, for which the purchasers paid $299,683.——The children of San Francisco held a charity "tag day" November 3 for the benefit of the Children's Hospital. Each male passerby was assessed 10 cents and tagged.——St. Francis Hospital Association, San Francisco, has bought a site for its new buildings at Hyde and Bush streets at a cost of about $175,000.——The Oriental Hospital, started ten years ago by the Chinese Consul, will be reopened. The hospital and dispensary is conducted by the Six Companies for Chinese and Coreans, and the new building, which cost about $10,000, and has from thirty to forty beds, will be ready about November 1.——The annex to Belvedere Hospital, San José, was formally opened October 1. Forty patients can be accommodated.——A new hospital is to be erected in Petaluma in mission style, two stories in height, to accommodate 25 patients.——Providence Hospital, San Luis Obispo, has suspended operations.——Drs. R. Douglas Potts, William R. Livingston, and Adolph A. Maulhardt, have leased the Sunderman building, Oxnard, and will renovate and fit it up as a hospital.

CONNECTICUT.

Sanatorium Opened.—The Undercliff Sanatorium for Tuberculosis, Meriden, was formally dedicated September 22, addresses being made by the governor of the state, the mayor, and other interested individuals.

Company to Pay Physician.—The Robert N. Bassett Manufacturing Company, Shelton, which employs between 600 and 700 hands, announced October 22 that in the future it would pay the bills for medical services of its employés.

Personal.—Dr. Marvin Scarborough has been appointed instructor of pharmacology in Yale Medical School.——Dr. J. S. Martin has been appointed medical examiner and health officer of Watertown, vice Dr. Walter S. Munger, resigned.

Osteopath Fined.—R. F. Mancuer, an osteopath, formerly of Brooklyn, who has been in charge of a so-called institute at Winsted and was arrested for practicing medicine without a license, is said to have pleaded guilty and to have been fined $25 and costs, amounting in all to $35.62.

Dinner to Naval Surgeons.—On October 12, more than fifty members of the Bridgeport Medical Association gave a dinner in honor of Dr. Mensa, surgeon Royal Italian Navy and physician to the king of Italy, and Dr. Karl Ohnesorg, surgeon, U. S. Navy. Dr. Mensa spoke interestingly of the tuberculosis congress to which he was the accredited representative of the Italian Government.

Communicable Diseases.—Scarlet fever is reported to be epidemic among the pupils of the Over River school, Norwalk.

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[1] School Hygiene, September, 1908.

——Several houses in Bristol are quarantined on account of diphtheria.——Sixteen cases of diphtheria are reported in Cromwell.——A number of cases of typhoid fever are reported from Willimantic.——Typhoid fever is reported to be prevalent throughout New Britain.

Vital Statistics.—During September there were reported in the state 1.233 deaths, 174 less than in the previous month, 175 less than in September, 1907, and 22 less than the average for September during the five years preceding. Of the deaths reported, 151, or 12.2 per cent., were from infectious diseases. Chief among death causes were nervous diseases, 143; diarrheal diseases, 139; heart diseases, 109; accidents and violence, 94; consumption, 93; pneumonia, 49; typhoid fever, 21; diphtheria, 14; whooping cough, 9; influenza, 4; and measles, scarlet fever, and cerebrospinal fever, each, 3. During the month the following cases of infectious diseases were reported: Measles, 36 in 15 towns; scarlet fever, 67 in 24 towns; cerebrospinal fever, 1 case; diphtheria, 103 cases in 32 towns; whooping cough, 23 or more cases in 9 towns; typhoid fever, 226 cases in 55 towns; and tuberculosis, 103 cases in 21 towns.

DELAWARE.

Personal.—Dr. Abram E. Frantz, Wilmington, has been elected secretary of the State Board of Health, vice Dr. Alexander Lowber, deceased.——Dr. Oliver J. Gray, Wilmington, while visiting his father at Quantico, Md., recently, was seriously injured by the premature explosion of a shot gun, necessitating the amputation of his left foot.

State Society Meeting.—At the annual meeting of the Delaware Medical Society, held in Wilmington, October 13, the following officers were elected: President, Dr. Henry J. Stubbs, Wilmington; vice-presidents, Dr. L. August H. Bishop, Dover, and William F. Haines, Seaford; councilor, Dr. James Brayshaw, Delmar; secretary, Dr. George W. K. Forrest, Wilmington; treasurer, Samuel C. Rumford, Wilmington; delegate to the American Medical Association, Dr. James H. Wilson, Dover; alternate, Dr. John J. Black, Newcastle; and delegate to the Council of Medical Education, Dr. H. Ward Briggs, Wilmington. The 1909 meeting will be held in Dover.

DISTRICT OF COLUMBIA.

Antituberculosis Association Organized.—The Association for the Prevention of Tuberculosis in the District of Columbia was organized October 27, Gen. George M. Sternberg, U. S. Army, retired, presiding.

Health Report.—According to the health and mortality record for the week ended October 17, there were 111 deaths, of which 60 were white. The births reported were 106 white and 57 colored. There were 223 cases of typhoid fever under treatment at the close of the week.

Vote of Confidence.—The Medical Association of the District of Columbia, on October 27, adopted by unanimous rising vote a resolution of confidence in Hon. Jacob H. Gallinger, chairman of the senate committee, thanking him for his services to the medical profession of the district and the country.

Typhoid Fever in Georgetown.—After investigation, Dr. William C. Woodward, health officer of the District, says there is nothing in the current typhoid fever epidemic in Georgetown to lead the health department to believe that it is in any way related to school attendance. It has been traced without a reasonable doubt to an infected milk supply.

Outings for the Poor.—A regular meeting of the outings committee was held October 20. The general secretary's report showed that 3,102 people had been given outings during the summer, and that 4,150 mothers and children had been entertained at the summer camps. The treasurer reported that the cost of operating the outings has amounted to $3.679, leaving a balance on hand of over $1,000.

Sanitary Manicure Shops.—As a result of statements that diseases have been spread by unclean manicuring establishments, and on suggestions of physicians that the tools in these shops be carefully sterilized, Commissioner West has instructed the health officer to prepare an amendment to the health regulations, which will require manicure establishments to maintain strict sanitary precautions.

Health Department Estimate Increased.—Dr. William C. Woodward, health officer of the District, in his annual estimate submitted to the commissioners, asks for an appropriation of $202,605, or $88.652 more than the amount appropriated by Congress for the fiscal year. The most important increase is the creation of an assistant health officer, who is to be a physician and act as health officer in the absence of the latter

Pure Food Law Evaded.—The Department of Agriculture will endeavor to obtain a modification of the pure food law at the coming session of Congress in order to prevent evasion of the law by manufacturers of adulterated products. A recent example is a dealer who has extensively advertised a mixture of "Java and Mocha" coffee. Investigation by the department showed that the mixture contained less than 1 per cent. of Java and the balance being composed of Costa Rica Mocha.

ILLINOIS.

Personal.—Dr. Edgar Holm, Waukegan, has returned from Europe.——Dr. Robert F. Hayes, Freeport, who has been practicing medicine in Stephenson County for more than fifty years, announces his intention of retirement.——Dr. Joseph F. Dicus, Streator, was operated on for appendicitis, October 27.

Communicable Diseases.—The schools at Isabel were dismissed October 19, on account of diphtheria.——The epidemic of diphtheria and scarlet fever in Waukegan is said to be due to milk obtained from insanitary dairies and farms near the city. The epidemic is apparently on the increase and the conditions in North Chicago are said to be alarming.

To Safeguard Laborers.—A state commission (of three manufacturers, three employés, one lawyer, one sanitarian and one citizen at large) will investigate thoroughly and report bills and other methods for providing for the health, safety and comfort of employés in factories, shops, etc. Dr. Henry B. Favill, Chicago, is the physician on the commission. It has been commented that satisfactory results have not been secured in the past because of the lack of cooperation and mutual understanding between capital and labor, and that this commission gives promise of good results.

Epidemics at an End.—The epidemic of typhoid fever in West Pullman and that of scarlet fever and diphtheria near West Forty-sixth Street and Ashland Avenue appear to be at an end. The situation at the Beale School is also said to be improving, although more slowly. As a result of these three situations, the Department of Health has formulated the following conclusions:

> First—Every case of contagious disease results from somebody's violation of the law.
>
> Second—No epidemic situation can be allowed to drift. The policy of *laissez faire* will not work.
>
> Third—The mailed hand will cure any epidemic situation in short order.
>
> Fourth—The clergy, physicians and good citizens generally can be depended on when they are stirred into activity.
>
> Fifth—So long as the community backs the Department of Health it can guarantee them against general epidemics.

Society Notes.—At the annual meeting of the Military Tract Medical Society, held in Peoria, October 15 and 16, the society, which is one of the oldest in the state, decided to discontinue the organization and disband.——At the annual meeting of the Association of Military Surgeons of the State of Illinois, held in Chicago, October 8, the following officers were elected: President, Major Thomas C. McCord, assigned Fourth Infantry; vice-president, Lieut. Com. David W. Graham, Naval Reserve; secretary, Major Charles Adams, secretary to surgeon general (re-elected); and assistant secretary, Major S. C. Stanton, assigned First Infantry (re-elected). The next meeting of the association will be held at Dixon.——The annual meeting of the Western Illinois District Medical Society was held October 30 in Jacksonville. Addresses were delivered by Dr. James W. Petit, president, and Dr. Edmund W. Weis, secretary of the State Medical Society. It was decided to hold the next meeting in Quincy. Dr. John W. Adams, Carrollton, was elected president; Drs. John H. Rice, Quincy, and David W. Reid, Jacksonville, vice-presidents; Dr. William P. Duncan, Jacksonville, secretary-treasurer (re-elected); and Drs. Robert J. Christie, Jr., Quincy, Frank P. Norbury, Jacksonville and Levin H. A. Nickerson, Quincy, censors.

Chicago.

Must Report Tuberculosis.—The department of health announces that on and after November 6, every practitioner in Chicago, under penalty of prosecution, must report immediately every case of tuberculosis that comes under his observation.

Faculty Changes.—Dr. William A. Evans has been made professor of sanitary science in Northwestern University.——Dr. Brown Pusey has been appointed head of the department of ophthalmology in Northwestern University, vice Dr. Casey Wood, resigned.——Dr. Frank Allport has resigned from the faculty of Northwestern University.

Infectious Diseases.—During the week ended October 31, there were reported 630 cases of infectious diseases, an increase of 74 over the preceding week. To this total, diphtheria contributed 213 cases; scarlet fever, 177; typhoid fever, 87; tuberculosis, 72; pneumonia, 23; measles, 22; chickenpox, 16; whooping cough, 7: puerperal fever, 1; and diseases of minor importance, 11. The most notable increase was in diphtheria.

October Deaths.—There were reported during October, 2,281 deaths, or 29 fewer than for the previous month, and 12 fewer than for the corresponding months of 1907. The annual death rate per 1,000 was 12.41. Acute intestinal diseases caused 342 deaths; consumption, 238; pneumonia, 205; heart diseases, 188; violence (including suicide), 184; nephritis, 182; cancer, 124; diphtheria, 67; scarlet fever, 36; whooping cough, 7; influenza, 3; and measles, 2.

Mortality of the Week.—During the week ended October 31, 541 deaths were reported, 33 fewer than for the preceding week, and 31 fewer than for the corresponding week of 1907. Pneumonia, for the first time since the spring, leads other diseases in mortality, with 58 deaths. Consumption caused 54 deaths; diarrheal diseases, 51; nephritis, 45; heart diseases, 44; violence (including suicide), 38; cancer, 32; and acute digestive diseases, 31.

Abortionist Loses.—The fight in the state's attorney office against criminal abortion has resulted in a new interpretation of the law under which it is claimed conviction will be more easily secured. In the case of Mrs. Lucy Hagenow, sentenced to twenty years' imprisonment for abortion, her attorneys made a point, on appeal, that her case was prejudiced because of testimony admitted to show that in ten years she had caused the deaths of at least ten women. The Supreme Court asserted that, while this case may have been prejudiced by the admission of the other cases, this was not the fault of the law, but the result of facts and circumstances surrounding the case. The opinion of the Supreme Court reaffirmed the order of the lower court, thus practically sentencing the aged criminal to life imprisonment.

IOWA.

Keokuk Medical College Merged.—The Keokuk Medical College, College of Physicians and Surgeons, has just merged into the Drake University College of Medicine at Des Moines. The Keokuk college was organized 58 years ago and has held a prominent place in medical education in its section of the country. The museum, library and laboratory equipment, as well as a large portion of the student body, have been transferred to the Des Moines school.

MARYLAND.

Lectures on the Heart.—Dr. Thomas E. Satterthwaite, New York City, gave a special series of clinics, lectures and demonstrations in the clinical amphitheater of the University Hospital, Baltimore, October 26-29. The subjects dealt with were physical examination in heart disease, myocardial diseases, valvular diseases and resistance exercises, carbonated baths, and other methods in the treatment of chronic heart disease.

Baltimore.

Water Supply Menaced.—Four cases of typhoid fever are reported in one family near Lake Roland. Lake Roland is one of the sources of supply of drinking water for Baltimore.

Personal.—Dr. George R. Graham is said to be critically ill. ——Dr. James E. Harris returned from London October 30.—— Dr. Clyde A. Clapp is ill at the Maryland General Hospital with typhoid fever.

New Cottages Opened.—The "Solomon Kann" and "Samuel and Emma Rosenthal" memorial cottages, recently erected on the grounds of the Jewish Home for Consumptives, Reisterstown, were dedicated October 25. Each cottage is intended to accommodate ten patients in the incipient stage.

Entertainments.—A banquet was tendered Dr. Louis Hamman, director of the Phipps Dispensary, Johns Hopkins Hospital, October 26, by the authorities of the hospital. Mr. Phipps was present at the banquet.——During the past week Dr. John C. Hemmeter entertained Surgeon General Oscar von Schneider of the German Army and Dr. Thomas Satterthwaite of New York City.

Will Not Allow Lectures on Hygiene.—The school board has refused to allow lectures on hygiene to be delivered to the children of the public schools on the ground that it had no authority to allow the schools to be used for such a purpose. The Parent's Club had made arrangements for this course under the auspices of the Medico-Chirurgical Faculty of Maryland, and the lectures will now be delivered in a church.

MASSACHUSETTS.

Communicable Diseases.—Winchendon reports a new outbreak of scarlet fever.——Scarlet fever and diphtheria are reported as numerous in Malden.——The cause of the recent typhoid fever in Brighton has been located. A boy employed as helper on a milk wagon is now ill with the disease.—— Typhoid fever is reported from Great Barrington, where 6 cases have occurred.

Womans' Medical Society.—At the October meeting of the Woman's State Medical Society, held in Boston, the topic under discussion was "Some Public Health Problems, with Special Consideration of the Suppression of Unnecessary Noise." The society voted that the chairman of the committee on legislation be authorized to represent it at the public hearing of the proposed bill soon to take place before the legislature.

Personal.—Drs. Michael F. Garvin, South Boston, and Josephine M. de la Neuville, Holyoke, have returned from Europe.——Dr. Fred T. Murphy, Boston, has been elected a trustee of Phillips Andover Academy.——Drs. Herbert B. Priest, Groton, and Ernest L. Hunt, Worcester, have been named as associate medical examiners.——Dr. Walter F. Sawyer, Fitchburg, was thrown from his carriage in a collision with an electric car, October 16, and sustained serious contusions.

Help for Tuberculosis Institutions.—Girls of Newton on "tag day," October 4, collected $3,500 to establish a clinic for tubercular patients at the Newton Hospital.——The city government of Lawrence has passed an ordinance, erecting and equipping a hospital, to be known as the Lawrence Tuberculosis Hospital, and to cost not to exceed $14,000.——The secretary of the Boston Association for the Relief and Control of Tuberculosis, announces that fifteen camps were now used in the state; that a hospital for advanced cases is now in course of erection at Mattapan; and that during last week, thirty more beds for tuberculosis patients would be established in Boston.——The state has purchased three parcels of land in Westfield comprising 128 acres as a site for one of the state tuberculosis sanatoria. When completed, this institution will be used to accommodate the tubercular patients from the western part of the state.

Councilors Meeting.—At the stated meeting of the councilors of the Massachusetts Medical Society, held in Boston, October 7, Drs. Arthur V. Goss, Taunton, and Benjamin P. Croft, Greenfield, were appointed delegates to the Vermont State Medical Society; and Drs. Samuel B. Woodward, Worcester, and Carl A. Allen, Holyoke, to the Medical Society of the State of New York. Dr. Thomas J. Robinson, Taunton, was appointed to fill the vacancy on the standing committee to procure scientific papers, caused by the death of Dr. Charles Harrington, Boston. Dr. George W. Gay, Newton, was appointed chairman of the committee on state and national legislation, vice Dr. George G. Sears, Boston, resigned. Dr. Frederick M. Spalding, Boston, was made a member of the committee on ophthalmia neonatorum. The date of the annual meeting of the society was changed to June 15 and 16, in order to avoid conflict with the American Medical Association meeting at Atlantic City.

NEW YORK.

Society Meetings.—At the annual meeting of the Fifth District Branch of the Medical Society of the State of New York, held in Utica, October 15, the following officers were elected: President, Dr. Gilbert D. Gregor, Watertown; vice-president, Dr. Frank E. Fox, Fulton; secretary, William D. Garlock, Little Falls, and treasurer, F. Edward Jones, Beaver Falls. Watertown was chosen as the place for the next meeting.——At the annual meeting of the Sixth District Branch of the Medical Society of the State of New York, held recently, in Binghamton, Dr. Seth A. Mereness, Oneonta, was elected president; Dr. Frank DeW. Reese, Cortland, vice-president; and Dr. Herbert W. Fudge, Elmira, secretary-treasurer.——At the annual meeting of Utica Medical Library Association, held October 5. Dr. William H. Beattie was elected president; Dr. Arthur M. Johnston, vice-president; Dr. Raymond L. Baker, secretary; and Dr. Charles H. Baldwin, treasurer.

New York City.

Harvey Society Lecture.—The second lecture of the Harvey Society course, delivered by Dr. William G. MacCallum of Johns Hopkins University, Baltimore, November 7, is on the subject of "Fever."

St. Luke's Hospital Anniversary.—In the notice of the fifteenth anniversary of St. Luke's Hospital in The Journal, October 31, it was erroneously stated that 863 patients had been treated in the institution during the year. The correct number was 12,863.

Milkmen and Butchers Fined.—Twenty-five milkmen and twenty-five butchers were fined sums ranging from $10 to $35 recently. The milk dealers were accused of putting formaldehyd in the milk, and the butchers of preserving meats with sulphurous acid.

Personal.—The Municipal Civil Service Commission has approved the appointment of Dr. Sigismund S. Goldwater, the superintendent of Mount Sinai Hospital, as a consulting expert in hospital administration and construction, to advise the architects and direct the completion of the plans for the new Bellevue Hospital.

The Investigation at Bellevue.—The Board of Trustees of Bellevue and the Allied Hospitals have had another meeting and have sent out a report denying that excessive charges were paid for soap, and thus exonerating Dr. Armstrong. The hearing of charges against Dr. Armstrong in regard to a personal interest in a sale of books to the hospital has not been completed.

Charity Has Odd Chance.—A will was filed for probate in Brooklyn recently which makes large bequests to charity in case a legatee who is very ill dies before the will is probated. In this event the Faith Home for Incurables will receive $2,500; the Brooklyn Home for Aged Men, $15,000, and the Home for Destitute Children and the Brooklyn Industrial Home will also receive substantial sums.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 24, 509 cases of tuberculosis, with 156 deaths; 322 cases of diphtheria, with 17 deaths; 133 cases of measles, with 6 deaths; 129 cases of scarlet fever, with 2 deaths; 84 cases of typhoid fever, with 16 deaths; 26 cases of whooping-cough, with 1 death; 9 cases of cerebrospinal meningitis, with 6 deaths; and 92 cases of varicella, a total of 1,294 cases and 204 deaths.

Vital Needs of City Departments.—A letter has been sent out to physicians and others who are philanthropically disposed by Social Workers, stating that there is grave danger that the Department of Health Tenements, Charities, Education and Hospitals may not receive the reasonable appropriations necessary to do the work so urgently needed in these directions. It is urged that personal letters be sent to the mayor and members of the board of estimate and apportionment. There is special need for greater hospital facilities and school and tenement inspection.

Health Department Handicapped.—Dr. Thomas Darlington has protested before the Board of Estimate and Apportionment because the appropriation for the Health Department was $329,340, while the department asked for $443,250. This will necessitate reductions in the force. Dr. Darlington claimed that the policy of the city was very shortsighted, as the expenditure of a little more on the Health Department would save millions in other directions. He urged that some steps be taken to govern midwives in their treatment of the eyes in the newborn, as this was a fruitful source of blindness and defective sight among children, and eventually put a heavy burden on society.

New Red Cross Tuberculosis Camp.—The Brooklyn branch of the American National Red Cross has decided, with the cooperation of the Bureau of Charities, to establish a tuberculosis day camp. It will be started within a year at annual cost of from $3,000 to $5,000. The intention is to raise the greatest part of the funds by the sale of Christmas stamps. The board of health made an attempt to establish a camp in Brooklyn three years, ago, but was unsuccessful because residents of the neighborhood objected. Dr. Glentworth R. Butler was elected president of the Brooklyn branch.——The New York County division of the National Red Cross Society has just held its first annual meeting. It was determined to establish a day camp for consumptives on the roof of the Vanderbilt Clinic. A strong plea was put forth for the establishment of a night camp as well. It is expected that the $5,000 necessary for the establishment and maintenance of the day camp will be forthcoming by Christmas.

NORTH CAROLINA.

Scarlet Fever Epidemic.—An epidemic of scarlet fever of mild type is reported at the State Orphanage, Oxford, where 28 cases developed during the week of October 16. The patients were isolated and the epidemic now appears to be well in hand.

New Hospital.—The trustees of Rex Hospital, Raleigh, have let the contract for the erection of a new building of concrete fireproof construction, to cost without furnishing, $36,000.——The necessary orders have been given by the Beckett Hospital Commission for two new buildings for consumptives at the Western City Hospital, Morganton. These will accommodate about 100 patients. One building will be for male and the other for female patients.

Liquor Prescriptions.—The board of aldermen of Charlotte has passed an ordinance which permits any legal druggist to sell to one patient on a physician's prescription, one pint of whiskey per day, and this sale may be effected without requiring a special license from the city. It is expected that the result of this state of affairs will likely be the establishment of a medical dispensary, which will sell liquor on physicians' prescriptions only, the profits going to the city.

State Hospital Commission.—The State Hospital Commission has finally decided to enlarge the state hospital, Raleigh, until its space equals that of the sister institution at Morgantown, and in line with this policy has ordered erected a two-story building containing eighty rooms with a view to segregate convalescent women in the new structure some distance from the main buildings of the institution. A building for male convalescents, consisting of three pavilions, will also be built at Raleigh.

Personal.—Dr. William D. MacNider, Chapel Hill, has been appointed a member of the committee for arranging an ideal course in pharmacology for American medical schools.——Dr. Charles H. Herty of the chemical department of the university, has been appointed a member of the National Committee on Conservation of the Country's Natural Resources.——Dr. J. Ernest Stokes, Salisbury, who has been in the Adirondacks for some time in search of health, has greatly improved and expects to resume practice soon.——Dr. Charles Roberson, Greensboro, has returned from Europe.——Dr. Francis J. Clemenger and family, Asheville, sailed for Europe October 24.

Society Meetings.—At the annual meeting of the Iredell-Alexander County Medical Society, held in Statesville, Dr. Thomas E. Anderson was elected president; Dr. E. A. Hall, vice-president; and Dr. John E. McLaughlin, secretary and delegate to the state medical society, all of Statesville.——At the fifth annual meeting of the Tenth District Medical Society, held in Waynesville, October 28 and 29, Dr. J. Howell Way, Waynesville, was elected president; Dr. Sheridan C. Heighway, Murphy, vice-president, and Dr. Thomas E. W. Brown, Asheville, secretary. On the first evening Dr. and Mrs. Way gave a reception in honor of the members of the society.——At the meeting of the New Hanover County Medical Society, held in Wilmington, October 8, the following officers were installed: President, Dr. Edward J. Wood; secretary, Dr. Thomas M. Green; censors, Drs. William D. McMillan, R. B. Slocum and Robert H. Bellamy.——At the annual meeting of the Greensboro Academy of Medicine, October 23, the following officers were elected: Dr. Edmund Harrison, president; Drs. Charles W. Moseley and John A. Williams, vice-presidents; Dr. Charles W. Banner, secretary; Dr. Thomas R. Little, treasurer; and Drs. Parran Jarboe, Albert R. Wilson and William J. Richardson, censors.

OKLAHOMA.

College Opens.—With a new building, the medical department of Epworth University, Oklahoma City, opened for its annual session, October 6.

New State Board of Medical Examiners.—The new State Board of Medical Examiners of Oklahoma organized at Shawnee, October 8, with the following officers: President, Dr. W. C. Tilly, Muskogee; vice-president, H. C. Montague, D. O., Muskogee; secretary, Dr. Frank P. Davis, Enid; and treasurer, Dr. Daniel W. Miller, Blackwell. The next meeting will be held at Muskogee.

PENNSYLVANIA.

Cocain and Public Schools.—The school children of the sixth police district have had access to the use of cocain through "cokers" who reside in that section, and a rigid investigation is being made. Eleven arrests have been made of persons charged with using the drug and some of the individuals were committed for treatment while others were held in $2,000 bail, charged with selling the drug.

Contagious Diseases.—Up to October 29, 125 cases of diphtheria and 25 cases of scarlet fever were recorded in Girardville, with many new cases appearing daily. The public schools have been closed.——All the schools and amusement places in Nanticoke have been closed on account of an epidemic of diphtheria. Five new cases were reported October 29, making a total of more than 100 since the epidemic began. ——Smallpox was reported from Gracedale, Luzerne County, October 30.——Smallpox is now present in four counties of the state.

Railroad Mortality.—The report of the State Railroad Commission shows that 302 persons were killed and 3,514 injured by the railroads of the state during July, August and September. Of these the steam roads killed 253 and injured 2,039, and the electric roads killed 49 and injured 1,476. Sixty-four per cent. of the persons killed on the steam roads were trespassers, more than 25 per cent were employés. and less than 1 per cent. were passengers. Of the injured on steam roads more than 72 per cent. were employés, more than 11 per cent. were trespassers and more than 10 per cent. were passengers. More than 26 per cent. of those killed on electric roads and more than 71 per cent. of the injured were passengers. Only a trifle more than 4 per cent. of those killed and less than 4 per cent. of the injured were employés. At grade crossings the steam roads killed 21 persons and injured 48, while the electric roads killed 1 and injured 2.

Philadelphia.

Hospital Buys Land.—The Woman's Hospital has purchased six lots on Seybert Street, each measuring 16x60 feet, for $11,050, for a site for an addition to the present building.

Personal.—Dr. William T. Shoemaker has been awarded the Alvarenga Prize of the College of Physicians of Philadelphia, for his essay on "Retinitis Pigmentosa."——Dr. Harry Mansfield, who was recently injured in an automobile accident, is convalescing.——Dr. Louis Starr had the honorary degree of doctor of laws conferred on him by Haverford College, October 16.

New Tuberculosis Dispensary.—The authorities of the Kensington Dispensary for the Treatment of Tuberculosis have secured for $15,000 a lot 40x120 feet at Hancock street and Susquehanna avenue, on which it is proposed to erect a new dispensary building.——The Garretson Hospital has secured a property at Nineteenth and Hamilton streets on which the authorities propose to erect a new building at a cost of $75,000.

Officers Elected.—At the meeting of the Pathological Society of Philadelphia, October 22, the following officers were elected: President, Dr. Joseph McFarland; vice-presidents, Drs. David L. Edsall, David Reisman, Aloysius O. J. Kelly and Allen J. Smith; secretary, Dr. Ralph S. Lavenson: treasurer, Dr. Courtland Y. White; recorder, Dr. Frederick H. Klaer, and curator, Dr. E. H. Goodman.——At the meeting of the Resident and ex-Resident Alumni Association of Mount Sinai Hospital, Philadelphia, October 1, the following officers were elected: Chairman. Dr. Julius L. Werner: vice-chairman, Dr. Benz H. Mann; secretary-treasurer, Dr. Michael Austin; and historian, Dr. Jacob Levy.

Meeting for a Pure Milk Supply.—The Public Health Committee of the Civic Club will hold a meeting in the interests of pure milk in Horticultural Hall. Monday evening, November 16. The meeting will be presided over by Dr. Joseph S. Neff, Director of Public Health and Charities, and the following addresses will be made: "A City's Fight for Pure Milk," by Dr. George H. Coler, Health Commissioner of Rochester, N. Y.; "The Production of Pure Milk," by Dr. Leonard Pierson, Philadelphia; "Milk as a Food for Children," by Dr. Samuel McC. Hamill, Philadelphia; and "Milk as an Economical Food," by Dr. Lawrence F. Flick, Philadelphia.

Filtered Water for City.—Every district of the city where mains are laid will be supplied with filtered water by March, 1909. The filtered water districts now comprise West Philadelphia, Roxborough, Manyunk, Germantown, Thirty-eighth ward north of Allegheny Avenue and the greater portion of the northeastern section of the city. With the completion of the preliminary filters at Torresdale in January, the capacity of that plant will be increased from 20,000,000 gallons, the present daily rate, to 240,000.000 gallons. The completion of the Torresdale plant will bring the city's total filtered water supply to 304.000,000 gallons every twenty-four hours, or but little more than the present estimated daily consumption, To provide for future increase in water consumption, plans are being prepared for the construction of a filter plant at Queen Lane, with a capacity of over 60,000,000 gallons daily.

Health Report.—The deaths reported to the Health Bureau for the week ended October 31 numbered 405. including 210 males and 195 females, a decrease of 26 from the previous week and a decrease of 63 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 4; measles, 3; scarlet fever, 6; diphtheria, 9; consumption, 41; cancer, 16; apoplexy, 13; heart disease, 43; acute respiratory disease, 46; enteritis, 33; hepatic cirrhosis, 4; Bright's disease, 45; premature birth, 14; congenital debility, 10; senility. 8: suicide, 3; accidents, 20: and marasmus, 5.——There were 202 cases of contagious diseases reported, with 21 deaths, as compared with 200 cases and 32 deaths reported in the preceding week. The new cases of contagious diseases reported were as follows: Scarlet fever. 54; an increase of 6 over the previous week; diphtheria, 112. an increase of 8; consumption. 138. an increase of 17; and typhoid fever, 36, an increase of 12.

VIRGINIA.

Itinerant Oculist Goes to Jail.—J. T. Bradley, an itinerant eye specialist, who has been practicing in Danville for several weeks, is said to have been consigned to jail in default of payment of a fine of $25, imposed on him by the mayor, October 17. for practicing without a license. After a few hours in jail, he decided to pay the fine, under protest, and was released.

Bequests.—W. G. Leck, for many years a citizen of Harrisonburg, provided in his will that the residue of his estate, $20,000 to $25,000. shall go to the common council of Harrisonburg for the establishment and maintenance of a hospital in that city.——The late Isadore I. Strauss, Richmond, in his will bequeathes $1.000 to the National Jewish Hospital for Consumptives, Denver.

Richmond Vital Statistics.—During September, there were 166 deaths in the city, equivalent to an annual death rate of 17.75 per 1,000. The deaths were 39 less than for the previous month, and 21 less than for the corresponding month of 1907. There were recorded 14 deaths from typhoid fever, as compared with 8 in the same month last year. Consumption caused 18 deaths; nephritis, 16; congenital debility, 13; cancer, 12; pneumonia and heart disease, each, 7; and violence (including suicide), 5.

Society Meetings.—At the annual meeting of the Norfolk and Portsmouth Medical Society, October 14, the following officers were elected: President, Dr. William L. Harris, Norfolk; vice-presidents, Drs. Stanley H. Graves, Norfolk, and Joseph Grice, Portsmouth; secretary, Dr. Robert L. Payne, Jr.; and treasurer, Dr. D. Lee Hirschler.——At the annual meeting of the Elizabeth City County Medical Society, October 12, Dr. Walter A. Plecker, Hampton, was elected president; Dr. George K. Vanderslice, Phoebus, vice-president; and Dr. George W. McAllister, Hampton, secretary-treasurer.——At the annual meeting of the Newport News Medical Society, held October 13, Dr. George E. Newby was elected president; Dr. J. H. Mabry, vice-president; and Dr. T. J. Pretlow, secretary-treasurer.

State Medical Society Meeting.—The Medical Society of Virginia met for its thirty-ninth annual session in Richmond, October 20, under the presidency of Dr. William Francis Drewry, Petersburg. The president, in his annual address, denounced the present theory which records experts on insanity as for sale to the highest bidder, and recommends that the court be empowered to call the expert instead of allowing the plaintiff or defendant to do so. The new constitution and by-laws adopted last year and in force for the first time this year, were pronounced satisfactory and praiseworthy, and a large amount of the detail of the business of the convention is taken from the hands of the society and disposed of by a council of 16. The following officers were elected: President, Dr. Stuart McGuire. Richmond; vice-presidents, Drs. Otto C. Wright, Jarrett, Elliott T. Brady, Abingdon, and Reid White, Lexington; secretary, Dr. Landon B. Edwards, Richmond (re-elected); and treasurer, Dr. Robert M. Slaughter, Theological Seminary (re-elected). It was decided to hold the 1908 meeting at Roanoke..

WEST VIRGINIA.

Epidemic Diseases.—There is reported to be an epidemic of typhoid fever in and around Fayetteville.——Wheeling has just passed through an epidemic of diphtheria, which was first noticed soon after the opening of the public schools.——A number of cases of scarlet fever of mild type in children are reported from Warwood.

Society Election.—At the annual meeting of the Ohio County Medical Society, held in Wheeling, October 15, the following officers were elected: Dr. Andrew J. Noome, president; Dr. John J. Osburn. vice-president; Dr. Charles A. Wingerter, secretary (re-elected); Dr. Robert M. McMillen. treasurer; and Drs. Edward L. Armbrecht, James G. Walden and D. Bigger Best, censors, all of Wheeling.

WISCONSIN.

Milwaukee Physicians' Association.—This association, which was organized and incorporated last summer to promote the spirit of fraternalism and good fellowship, and to formulate proper methods of protecting its members against delinquent debtors, held a banquet October 17, over which Dr. Henry J. Gramling presided as toastmaster.

GENERAL NEWS AND COMMENTS.

Personal.—Dr. Victor G. Heiser, director of health and chief quarantine officer in the Philippine Islands, and Dr. Fernando Calderon y Roca, Manila, have been in attendance on the International Congress on Tuberculosis.——Dr. Walter Hoffman, Honolulu, has returned from abroad and resumed practice.

Antivaccination Meeting.—A temporary organization, known as the Antivaccination League of America, met in Philadelphia, October 19-21. The objects were to protest against the state's right to vaccinate, to spread information regarding the alleged ill effects of vaccination, to discuss methods to be pursued in the effort to eliminate laws supporting vaccination, to take steps to abolish oppressive medical laws, and to resist the proposed enlargement of the scope of state medicine. Many addresses were made denunciatory of vaccination. At the final meeting an anathema was hurled at the heads of the medical profession in general, and the Philadelphia County Medical Society in particular.

Railway Surgeons Meet.—At the fourth annual meeting of the Association of Surgeons of the Atlantic Coast Line Railroad Company, held in Jacksonville, October 21, the following officers were elected: President, Dr. James H. McIntosh, Columbia, S. C.; vice-president, Dr. James H. Pittman, Jacksonville, Fla. (re-elected); secretary-treasurer, Dr. Augustus C. Hoyt, Waycross, Ga.; and member of executive committee, Dr. John E. Boyd, Jacksonville. The next meeting will be held at Wilmington, N. C.——The twenty-seventh annual meeting of the Association of Surgeons of the Pennsylvania Lines, West, was held in Pittsburg, recently. Dr. Adam M. Beers, New Comerstown, Ohio, was elected president; Drs. John B. Donaldson, Canonsburg, Pa., and Sidney B. McLeod, South Chicago, Ill.; and secretary-treasurer, Dr. Stewart L. McCurdy, Pittsburg. The next annual meeting will be held in Columbus, Ohio.

Examination for Army Medical Corps.—The Surgeon General announces that examinations for the appointment of first lieutenants in the Army Medical Corps will be held Jan. 11, 1909, at points to be hereafter designated. Information concerning the examination can be obtained on application to the Surgeon General, U. S. Army, Washington, D. C. The essential requirements are that the applicant shall be a citizen of the United States, between 22 and 30 years of age, a graduate of a legally authorized medical school, of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examination on general education may be omitted in the case of applicants holding diplomas from reputable colleges, normal schools or high schools, or graduates of medical schools, which require entrance examinations satisfactory to the faculty of the Army Medical School. Applications should be in the possession of the adjutant general on or before December 10. There are at present fifty-seven vacancies in the corps.

Sanitation of the Canal Zone.—The report of Dr. William C. Gorgas, Colonel Medical Corps, U. S. Army, chief sanitary officer of the Canal Zone, shows that in August, 1906, there were 153 deaths of employés, equivalent to an annual death rate of 62.12 per 1,000; in 1907 there were 93 deaths, equivalent to a death rate of 27.59 per 1,000; and in 1908 the death rate was still further reduced, 42 deaths being reported, equivalent to an annual death rate of 11.39 per 1,000. In August, 1906, with a force of 29,000 men, there were more than three times as many deaths from malaria as occurred in August, 1908, in a force of 44,000. Typhoid fever caused no deaths in August, 1908. In the corresponding month of the previous year it caused 7 deaths and in August, 1906, 9 deaths. Dysentery in 1908 caused 2 deaths; in August, 1907, 6 deaths, and in August, 1906, 10 deaths. In 1906, for every 1,000 employés, there were 42.66 sick every day; in 1907, this rate was reduced to 29.02; in 1908 it was still further reduced to 25.24. No case of yellow fever or plague has originated on the Isthmus during the last two years. Among the 8,175 Americans in the Canal Zone, of whom 2,169 are women and children, only two deaths occurred, one due to drowning and one to childbirth.

An International Association of Esperantist Physicians.—At the Fourth Esperantist Congress, held during August in Dresden, a meeting of the medical members was held under the presidency of Professor Dor of Lyons. Delegates were present from all parts of the world. Major Philip Straub attended as delegate on behalf of the Medical Corps, U. S. Army. From the *Vocho de Kuracistoj* we learn that the committee appointed to discuss the formation of an international association of esperantist physicians reported favorably, and the Tutmonda Esperanta Kuracista Asocio was accordingly organized, with the object of promoting the practical inter-relations of esperantist physicians of all countries. All qualified physicians are eligible, the subscription being fixed at $1, payable at the commencement of each year. Arrangements were made for the establishment of an official organ. The central committee will elect for every country one or more "consuls" and also representatives according to the requirements, in all cities of sufficient medical importance. The duties of these representatives will be to direct the propaganda of esperanto among physicians in their respective jurisdictions, and to render assistance in matters of information, etc., to traveling esperantist physicians. Professor Dor of Lyons, France, was elected president; Drs. Mybs of Altona, Prussia, and Whitaker of Liverpool, England, vice-presidents; Dr. Mikolajski, of Lwow, Austro-Galicia, secretary; and Professor Soulier of Lyons, France, treasurer. Consuls were elected for France, Russia, Austria, Germany, Poland, England and Sweden. Dr. W. Robin requests all physicians who sympathize with this movement to send him their names and addresses, stating also whether or not they are willing to undertake the duties of consul or representative. Address Dr. W. Robin, Warsaw, Russia, ul. Senatorska, 40.

The Phonograph in the Antituberculosis Crusade.—Dr. Oscar H. Rodgers has prepared a series of terse tuberculous talks for the phonograph, which he calls "Canned Aphorisms." These records have been employed in Yonkers, at the State Fair in Syracuse, and at 36 county fairs by the State Charities Aid Association. In Washington at the International Congress on Tuberculosis, megaphone warnings repeatedly resounded. One of the records has been presented to the physician of the Czar of Russia, and will be translated and the information disseminated throughout the country. The association has put its six outfits at the disposal of the local committees of the state, who are asked to follow the plan of attracting crowds by musical selections and between the selections giving short phonograph talks on tuberculosis. The following are among the aphorisms which have been prepared:

> Consumption is caused by the poisonous germs in the consumptive's spit. The poisonous spit dries and goes to dust, into other people's lungs. A little poisonous spit, when scattered in dust, is enough to affect dozens of people. That is why careless spitting is dangerous. That is why everybody should be careful to spit only into spittoons or into the gutter. People who spit on the floors of their homes spread disease. Workmen who spit on the floors of their workshops spread disease. Tobacco juice is just as dangerous as any other spit. People who spit on the sidewalk where women may get it on their dresses and take the poison home, spread the disease. Don't be a careless spitter.
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> A consumptive who coughs and spits anywhere and everywhere is a danger to his family and to all about him. He will poison the house he lives in and the shop where he works. He should cough and spit into a cloth or paper that can be burned, so as to kill the poison in his spit. A careful consumptive, who coughs and spits into anything that can be boiled or burned is perfectly safe to be about you. Be kind to the careful consumptive, but avoid the careless consumptive who coughs and spits everywhere and anywhere. He is dangerous to have about you. He will poison the air with the dust from dried spit.
>
> Sunlight and fresh air kill the poison in the consumptive's spit. That is why you should see that you have fresh air in your homes. Don't live or work in rooms where there is no fresh air—such rooms are dangerous. Always sleep with your windows open in winter and summer. Don't be afraid of night air. Don't be afraid of damp air. They are not dangerous, but rooms that are kept closed are dangerous because the poison of disease is in the air of such rooms. Let all the sunlight and fresh air that you can into your rooms. Sleep in the fresh air. Work in the fresh air. Live only in the fresh air.
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> Consumption may be cured if taken in time, but usually not otherwise. If you suspect that you have consumption—if you have a slight cough that hangs on—if you are gradually losing weight—if you are beginning to feel tired all the time—if you have a slight fever in the afternoon, go at once to your family physician, or if you are not able to do that, go at once to the dispensary, so as to make sure whether you have consumption or not. Don't waste time on consumption cures—they only waste your money and your time.
>
> Consumption is cured, if taken in time, by these three things: Fresh air, rest, food. Fresh air—summer and winter, rain or shine, day and night, out of doors if possible. Rest—all you can get. Food—all you can eat of plain food, bread and butter, milk and eggs. Medicine is of little use. "Patent medicines" do not cure consumption. While you are taking them you are losing time. Fresh air, rest and food are better than all the medicines you can take. Don't lose time with medicines.

CANADA.

Medical Colleges Open.—The annual session of Laval University Medical Faculty began September 10, when the vice-rector, dean and several members welcomed the students.——The opening lecture in the Faculty of Medicine of McGill University was delivered by Dr. Gibson of Edinburgh, Scotland, September 24, in the Royal Victoria College.

Election.—At the annual meeting and banquet of the Winnipeg Medico-Chirurgical Society, October 2, the following officers were elected: President, Dr. W. McLean; vice-presidents, Drs. John O. Todd and Samuel W. Prouse; secretary-treasurer, Dr. Charles H. Vrooman; and councilors, Drs. Charles Hunter Galloway, Jasper Halpenny and William H. Smith.

Epidemic Diseases.—Typhoid fever is reported to be epidemic in Montreal, where the hospital cases alone number more than 200. The epidemic is attributed to the bad condition of the water and to improper milk.——In the first week in October sixteen cases of typhoid fever were reported to the health department of Winnipeg.——There are six smallpox patients in Swiss Cottage Hospital, the municipal hospital of Toronto.

Staff Reorganized.—The staff of St. Michael's Hospital, Toronto, has recently been reorganized. There will now be two services in surgery in charge of Drs. Irving H. Cameron and Walter McKeown; two services in medicine in charge of Drs. Robert J. Dwyer and Harry B. Anderson. The service in obstetrics and gynecology will be under the charge of Dr. Frederick Fenton, assisted by Drs. Alton H. Garrett and Malcolm M. Crawford and the eye department will be in charge of Dr. George H. Burnham.

French Physicians Visit Toronto.—A party of 20 French physicians was entertained in Toronto by the Academy of Medicine, September 18. They were in charge of Professor Landouzy of Paris. They took an automobile ride around Toronto; were entertained at luncheon in the university dining hall by Dr. Richard A. Reeve, dean of the medical faculty; were tendered a reception in the afternoon in the Academy of Medicine by the president, Dr. James F. W. Ross and Mrs. Ross, and were entertained at dinner at the Toronto Club by Drs. Ross and W. Henry B. Aikins.

Personal.—T. F. Brody, M.D., F.R.S., London, has been appointed titular professor of physiology in the University of Toronto.——Dr. Bruce L. Riordan, Toronto, has gone to New York for treatment at the Pasteur Institute.——Hon. Dr. Robert A. Pyne, minister of education, Ontario, has returned from England.——Drs. Graham Chambers and Walter McKeown, editors of the *Dominion Medical Monthly*, Toronto, have been appointed associate professors of medicine and surgery, respectively, in the medical department of the University of Toronto——Dr. John Mearns, Woodstock, Ont., sprained his ankle and bruised his head in a fall at Princeton, October 14.

FOREIGN.

Mexican Notes.—Typhus fever is reported to be epidemic in Mexico City, and is said to be one of the worst epidemics known in recent years. It is said to have developed and broken out in the hospital of the general prison and spread from the prison through released prisoners.——One hundred and thirty new cases of typhus fever are said to have developed in Belem jail, Mexico City, during the month ended October 11.——The typhus epidemic in the state of Tlaxcala is said to be extending very rapidly throughout some of the haciendas in the district of Huamantia.——Dr. José Ramos, on October 13, was appointed director of the National Medical Institute, vice Dr. Fernando Altamirano, deceased.

The International Antiquackery Conference.—At the suggestion of the Netherlands Antiquackery Society an international conference was held by delegates from the German, Swedish, Finnish, Austrian and Dutch antiquackery societies at Berlin, September 24. The organization of international efforts for insuring concerted action against quackery was advocated; also similar legislation in various countries to reduce the quack and nostrum evils. Several spoke in favor of an international central collection of literature and works relating to quackery, and it was proposed that Holland should be the center of this international campaign. This central library should receive all publications relating to quackery in any way, thus including the pamphlets and circulars sent out by quacks. The resolution was adopted that each national organization should report to this central office, and that antiquackery societies should be founded in every land. It is hoped by the material thus accumulated in the central library to be able to make out reports to be presented to the different authorities in the different countries, which will influence them in favor of legislation against quackery. The conference was attended by delegates from some of the medical councils and public health associations, and representatives of the police department and Imperial Council of Public Health. The Austrian delegate stated that the strict legislation against quackery in Austria has done a great deal of good. The moral impression on the people had been an important aid. The proceedings of the conference are published in the *Gesundheitslehrer* or Guide to Health, the official organ of the German Antiquackery Society.

LONDON LETTER.

(*From Our Regular Correspondent.*)

London, Oct. 24, 1908.

Cholera Precautions.

Dr. Williams, health officer for the Port of London, reports that so far no case of cholera has arrived. All vessels arriving from St. Petersburg are closely inspected and all drinking water brought from that city is thrown overboard and the tanks thoroughly cleaned. The campaign against rats continues at the docks and on board ships, 540,280 having already been slaughtered.

The London School of Tropical Medicine.

The London School of Tropical Medicine has made considerable progress. At the inaugural meeting of the winter sessions it was announced that the total number of students since the opening of the school in October, 1899, has been 849 and the number for this year 106. About two-fifths of the students since the opening of the school were in the Colonial Medical Service. A small proportion were in the employ of foreign governments, such as the United States, Holland, Venezuela, Colombia and Siam. Lord Crewe, secretary for the colonies, expressed the interest of the government in the school. They had in East and West Africa alone, some 200 medical officers who had found it part of their duty to study either at the London or Liverpool School of Tropical Medicine. The existence of the school was a great boon to the colonial office. Though Great Britain gave the enormous native population the blessings of freedom and order, it also introduced the vices of civilization—alcoholism and other scourges. The tropical schools have had an immensely stimulating influence over the whole field of medicine. They have stimulated pathology in a way which has made the last 20 years conspicuous in the annals of medicine. Among other advantages have been the magnificent example of research and the stupendous results in the saving of human life and the restoration to mankind of millions of acres of country desolated by disease.

Francis Galton.

Mr. Francis Galton, who has attained the age of 86, but still is full of mental vigor, has published an autobiography entitled "Memories of My Life." Though not a physician, he has, like the great Pasteur, done work of the greatest value to medicine. The grandson of Dr. Erasmus Darwin and the cousin and life-long friend of Charles Darwin, he has made contributions to biology only second in importance to those of the author of "The Origin of Species." His books on "Hereditary Genius" and "Human Faculty" are two of the most original works of the last century. He was a student of medicine, when in 1844, on the death of his father, he found himself with a fortune sufficient to render him independent of the profession. He gave up medicine and took to travel. He explored southwest Africa and was awarded the medal of the Geographical Society and elected a fellow. He is perhaps best known to the general public by his system of identification by finger-prints, which in our prisons has superseded Bertillon's method of measurement. No one has done so much to build up a science of heredity as applied to man, and his efforts to found a new science—Eugenics or race improvement, alone entitle him to fame. Evolution has hitherto taken place chiefly by means of natural selection, which makes for the good of the race, but takes small account of the individual. According to Mr. Galton, man "gifted with pity and other kindly feelings" may, in the course of time, devise some means of replacing natural selection "by other processes that are more merciful and not less effective."

Early Deaths Among London Hospital Physicians and Surgeons.

The early deaths of Mr. Harold Barnard, surgeon of the London Hospital, Dr. Betram Abrahams, physician to the Westminster Hospital, and Mr. Edward Percy Paton, physician to the Westminster Hospital within a few months, have not only shocked their friends, but have drawn the attention of the profession to the severe strain which hospital work now imposes, particularly hospital surgery. Mr. Barnard and Mr. Paton were only 41 years of age and Dr. Abrahams was only 38. Thus careers of great promise, and in Mr. Barnard's case, one of achieved eminence, have been cut short. In his presidential address to the Medical Society of London, Mr. C. B. Lockwood, surgeon to St. Bartholomew's Hospital, alluded to the stupendous increase which had taken place in the number of, and the arduousness of, modern operations. The recent deaths from overwork of junior members of the staffs of the London hospitals awakened in every one's mind feelings of apprehension. Some of those who had succumbed were strong and healthy young men; others perhaps were not well suited in physique. but long hours in the out-patient rooms, in the wards and in the teaching departments with much night work and insufficient rest and recreation were not calculated to fortify any one to withstand infection to which surgeons were inevitably exposed. The overworking of the younger men must have a prejudicial effect not only on their health, but on their scientific work. If British surgery is to maintain its position those who made it must have sufficient time and leisure to do scientific work.

The Manchester Royal Infirmary.

The Manchester Royal Infirmary, one of the largest provincial hospitals in England, has been rebuilt at a cost of $2,500,000. It has been removed from its site in Piccadilly, one of Manchester's busiest thoroughfares, to a healthy and open part of the city facing Whitworth Park and about half a mile from the Manchester University, of which it is the medical school. It has been built to specifications drawn up with the assistance of the medical board and is claimed to be one of the finest hospitals in the world. not only for the treatment. but for the study of disease and for the instruction of students. It is arranged on the pavilion plan and has been specially designed to secure quietness for the patients and for the medical and surgical staff. In addition to the teaching block in the handsome frontage of the hospital. class rooms and clinical laboratories are provided in all the units into which the pavilions are subdivided. A conspicuous feature of the plan is the number of open-air grass courts lying between the numerous pavilions in which about 50 trees have been preserved. The infirmary contains 592 beds. Of these, 20 form a gynecologic department: 32 are reserved for special purposes. The remaining 540 beds are allotted as follows: Medical, 240; surgical. 300. Of the latter, 180 are for men and 120 for women and children.

The Protection of Children.

The present government has shown an unprecedented activity in legislation in the cause of social reform. The most noteworthy of its achievements in this direction is the Children's Bill, which is now before the House of Commons. Some of its provisions have been described in a previous letter. A clause has just been passed imposing a penalty for selling or giving cigarettes or cigarette papers to children apparently under the age of 16. Mr. G. R. Sims. the famous journalist, has written a strong plea for including in the bill a clause prohibiting the sale of inflammable flannelette which causes the agonizing deaths of many hundreds of children every year. In an article headed "The Flaming Death," he points out how widely used is flannelette, in consequence of its warmth and cheapness, for the under garments of children. and how easily it is set on fire. The *Lancet* has described the death roll as "appalling." By the chemical union of certain salts with the cotton of the flannelette a perfectly safe fabric, which does not blaze on ignition but only smoulders, can be produced, but it is somewhat dearer than flannelette. Mr. Sims' plea has met with a quick response from the public. Physicians, health officers, coroners, professors. philanthropists and others have written to the press indorsing his recommendation. A clause has been added to the Children's Bill making overlying an offense. When a person, under the influence of drink over the age of 16, goes to bed with an infant under the age of 3 years and causes its death by overlying. such person will be deemed "to have neglected the infant in manner likely to cause injury to its health within the meaning of the act." At present about 1,600 infants are killed yearly by overlying.

PARIS LETTER.

(*From Our Regular Correspondent.*)

Paris, France, Oct. 22, 1908.

The Prophylaxis Against Abortion.

The Obstetric Society of France, which met in Paris October 8 to 10, after the reading and discussion of the report of Dr. Bossi on prophylaxis against criminal abortion, decided unanimously to form an international committee to study prophylactic measures to be proposed to the public authorities. Without pronouncing on the question from the legal, social, moral or religious point of view, the society declared that it was its duty to utter a warning because of the great frequency and gravity of the accidents which result from the practice.

The League for the Welfare of Students.

The conditions of existence of students in Paris, as in many other large cities, are deplorable on account of the lack of healthfulness, of neatness, of comfort and of attractiveness of lodgings, as well as in respect to food. To remedy this state of things, a League for the Welfare of Students has just been formed under the patronage of the director of higher instruction, the deans of the four faculties, and many professors of higher branches. It is administered by a council, of which half the members are the presidents or representatives of the students' associations. Having no religious, political or social character, the object of the league is solely the improvement of the material life of the student (lodging, food, etc.). It proposes to facilitate search and choice by creating a center where demand and supply can be made known and oral, written and printed information furnished on the chief modes of installation (furnished and unfurnished lodgings, apartments in common, boarding houses, etc.), and the special features of each kind, thus making known and encouraging the best existing establishments, and bringing about desirable improvements. Its program includes everything which concerns the health and the material life of the students; physical culture, installation of sanatoria, etc., prevention and repression of maladies. and settlement of legal disputes.

Instruction in Hygiene.

Dr. Widal, in a supplement to the report on epidemics, recently laid before the Academy of Medicine demands that hygiene be made a subject of instruction and of examination in the primary and grammar school. A boy so educated, when grown up. will understand his responsibility as the head of a family; he will know that a case of roseola. of scarlet fever. of typhoid fever or of diphtheria calls for immediate disinfection; and, in learning to remember the interests of others. he will have gained the best of lessons on social relations. Professor Chantemesse insists on the necessity of perfecting the instruction in hygiene in our medical faculties, especially that of Paris. The Faculty of Lyons, for instance, with one-tenth as many pupils as the Faculty of Paris, allows its hygienic laboratory a budget twice as large; which means that the Faculty of Paris spends one-twentieth as much on the hygienic instruction of its pupils as the Faculty of Lyons. Chantemesse thinks that the fact that the mortality from contagious diseases is comparatively smaller in Germany is due largely to the expenditures made there for instruction in hygiene. At Berlin, the Institute of Hygiene receives annually 32,500 francs (about $6,500), while at Paris, where the number of students is much greater, the Faculty of Medicine only allows 2,300 francs a year to this branch (about $460), or about one-fifteenth of the amount spent in Berlin.

Hygiene and Inspection of Industry.

Besides the laws regulating the length of a day's work, the weekly period of rest, etc., we have two laws which, respectively, regulate the hygienic conditions and safety of working people in industrial and in commercial establishments. Unfortunately, these salutary laws are frequently not enforced, owing to the insufficiency of the overtasked force of inspectors to the needs of the situation. The recently published report of the Ministry of Labor for 1907 shows that, out of 522,130 establishments subject to inspection, there were 191,937 not visited in the last year. The report therefore recommends, instead of the multiplication of laws bearing on the hygiene of industry, the better application of those that exist. The Minister of Labor has just created a course of instruction in industrial hygiene particularly intended for the candidates (male and female) for the office of inspector, as well as for those who already occupy such positions.

Professor Berger Stricken with Cerebral Congestion.

Prof. Paul Berger, professor of clinical surgery, when preparing to perform an operation at the Necker Hospital, October 9. suddenly collapsed, stricken by cerebral congestion. He has just died, after a week of extreme pain, at the age of 63. His was a great personality in the surgical world. and his death will leave a gap in the faculty of medicine, for he had the passion for teaching, and possessed extremely solid erudition. He had perfected the operative technic of hernias, as well as the treatment of fractures. He devoted himself especially to autoplastic operations, in which he had acquired great mastery.

His scientific integrity, his inflexibly rigid professional morality, his scrupulous respect for all the rules of conduct binding on a physician careful of his dignity, made for him a place apart in the surgical world, where other manners are creeping in. On his coffin, by the side of the insignia of the Legion of Honor, lay a little two-sou bouquet of violets, offered by the patient on whom Berger was preparing to operate when he was stricken by his last illness; and this humble homage of gratitude was a better reminder than any words would have been that the deceased who, hardly recovered from long months of suffering, had just resumed his service to succumb, so to speak, on the field of honor, was to the end a man devoted to duty and to his patients.

The Responsibility of the Surgeon.

At the Twenty-First French Congress of Surgery, October 5, the president, Professor Forgue, of Montpellier, discussed in his opening address a timely question, namely, the responsibility of the surgeon. Unfortunately, Dr. Forgue did not sufficiently emphasize the difference, very important legally, between the civil and the criminal responsibility of the surgeon. Even though the surgeon and, generally speaking, the physician, are rarely subject to the penalties of our criminal code, they may easily find themselves liable, under the vague and elastic provisions of Articles 1382 and 1383 of the civil code, which provide that every person who has occasioned an injury to another by any act whatever, or by negligence or imprudence, is bound to repair the injury. How many patients seek to make profit out of these two articles by claiming damages from their surgeons for alleged injuries which often consist of an insignificant contraction of a limb after a fracture, etc.!

The question of medical responsibility has enormous social importance, for, as Dr. Forgue said, logical limits and equitable guarantees for this responsibility are demanded not only for our own interests, but even more for the free progress of our art. The menace of a responsibility too liberally construed and exploited by ungrateful patients would tend toward the paralysis of all initiative and toward that inaction which, in the celebrated Laporte case, the lawyer justly characterized as the principle of *laisser-mourir* or of allowing to die. Scarcely a half century ago, our Academy of Medicine put its veto on oöphorectomy. Where should we be now if the courts of law had given their support to this opposition?

Representation of Both Sides in the Expert Testimony in Medicolegal Cases.

An allied question is that of expert testimony in lawsuits involving medical responsibility. Professor Pinard has often and rightly called attention to the disastrous consequences of inadequate expert testimony in medicolegal cases. In a recent lawsuit against a midwife accused of malpractice, Professor Pinard, with rare energy and a noble spirit of justice, came to the defense of the accused, just as he formerly defended Dr. Laporte. Pinard shows how dangerous it is for physicians that expert testimony should be given by a single physician; from the beginning of every process against a physician or midwife the opposite sides of the case should be represented in the expert testimony. Too often, in fact, the tribunal allows itself to be impressed by inadequate or incompetent expert testimony which there is nothing to contradict. Pinard does not proclaim the irresponsibility of the physician or the midwife. "We are," he says, "all fallible, and therefore ought to be held responsible. But what I desire is that we shall be judged by our peers, who alone are capable of knowing whether a fault has been committed. It is for the magistrates to apply the penalty when the wrong shall have been recognized. They will have the last word; they ought not to have the first also."

BERLIN LETTER.

(From Our Regular Correspondent.)

Berlin, Oct. 14, 1908.

German Medical Press Association.

Following the example of the French and Italian associations of medical journalists, a similar association was organized in Germany in 1894. It has for its object the improvement of the character and influence of medical journalism, and the effective representation of its common interests. As the association has accomplished results that extend beyond the limits of medical journals and are of importance for the entire profession, it seems worth while to give your readers some further details at this time. The association at present includes about sixty of the most important professional journals of Germany and Austria, especially the weeklies, represented by their editors. A general meeting occurs annually, at which previously prepared reports on important subjects are read and discussed. On the basis of such reports the following important resolutions have so far been passed:

In regard to personal literary disputes which in most cases are an unnecessary burden for the journals and their readers, it has been agreed that such polemic articles shall be accepted only when they contain no direct insults, and on condition that they shall be presented to the author attacked, for an immediate reply, before they are printed. Every literary feud of this character must close with the reply of the first author.

FAKE MEDICAL WRITE-UPS.

The association has declared its purpose to use all available resources to prevent the insertion in the columns of the journal under editorial supervision of unreliable medical write-ups of proprietaries, in place of a reliable and suitable publication in the advertising columns. The editor must have the right to refuse advertisements which seem objectionable, as well as to reject original articles or reports whose acceptance is made conditional on the insertion of an advertisement. The association further refuses to sanction the advertising of remedies the composition of which is concealed by the manufacturer. In case an advertisement is refused, the editor in question shall notify the president of the association in order that all the members of the association may act in concert in regard to it.

Especially important is the resolution adopted in 1906 to prepare a "black list" of authors who make a business of writing papers for pay, in the interests of the manufacturers, on the chemical or other products of their factories. The writings of such authors are neither to be published in any of the journals belonging to the association nor summarized for their columns in case they have appeared in other papers. This resolution has seemed necessary, because with us and also surely in other countries, and especially in yours, there is a group of unscrupulous physicians who prepare papers about new remedies without having tried them, indeed, without having the clinical material at their disposal on which to try them, and they do this exclusively for pecuniary profit. Such physicians offer their services in this line systematically for a larger or smaller remuneration to the various manufacturers. These write-ups are then spread broadcast by the manufacturers as advertisements to start a propaganda for preparations of more or less value, since printed statements never fail to make an impression on the credulous medical and lay public. No proof is needed that this custom is injurious to the interests of science and of the sick. By the resolution adopted by the German Medical Press Association, a surely not ineffective means was thus obtained for reducing this evil, and the results so far have been quite manifest in this direction.

REMUNERATION FROM MANUFACTURERS FOR TRIALS OF THEIR REMEDIES.

At the last general meeting, which as usual took place with the "Naturforscher Congress" at Cologne, the association took up the question how far the scientific testifying in respect to pharmaceutical preparations may go, and whether it is proper for physicians to accept remuneration from the manufacturing chemists for such reports. The resolutions voted by the association on this question are as follows: "It is to be recognized that the investigation of new, synthetically produced remedies, by animal experiment and in the clinic, is in the interests not only of the industry involved, but also for the progress of theoretical and practical therapeutics. But it is also for the interests of these industries as well as for therapeutics that only valuable papers shall be published, only those which are the result of exact research and observation and free from exaggerated claims (*Schönfarberei*). Unreliable, biased or consciously fraudulent articles on medical preparations are to be most vigorously fought. It is the duty of editors to reject articles that are doubtful in these respects, and also to refuse every article that is not presented by the author himself or by the head of the institution in which the work has been done. It is allowable to mention the firm which makes the preparation, as also the ordering of reprints for advertising purposes. The decision of the question whether a remuneration shall be asked or accepted for experimental or clinical testing of a pharmaceutical preparation must, considering the present marked difference of opinions on the subject, be left to the ethical feeling of each scientific worker or to the decision of the director of the institute. The professional press has only to make the point clear that in regard to the publication of articles on medicines, no distinction is to be made except between reputable and disreputable articles, and the question of remuneration from the manufacturers for such work is not to be taken into consideration as a decisive factor in this respect. It is, however, to be understood that the payment of the fee must not be made in any way dependent on the result of the publication of the article. Inspection of the article by the firm before it is printed is permissible, and also a reservation on the part of the firm that it is not compelled to permit the publication of an article so long as the preparation has not been marketed and so long as a dissenting opinion regarding the preparation has not been published from another source. It is to be specified in the publication that the work was carried out at the request of the firm." [See also abstract 65 on page 1648 in this issue.]

Home for Incurable Consumptives.

It was first advocated by B. Fränkel, and again with repeated emphasis by Robert Koch, that incurable consumptives should be removed from their families and unfavorable surroundings and placed in special hospitals. This requirement is based on the general principle that in the eradication of any infectious disease the first essential is to remove the source of infection. In phthisis this lies in the expectoration, and in spite of all hygienic precautions the contamination of other individuals can not be prevented if the bacilli contained in the sputum gain access to food or are inhaled. It is indeed not to be denied that if individuals harboring tubercle bacilli in their sputum could be completely and permanently isolated, it would prove a most effective measure against the spread of pulmonary tuberculosis. The carrying out of this program in practice is not an easy matter, since patients of this sort dread to enter such homes for incurables, from which no one departs alive, so that they have been named "death houses for consumptives." *Sterbehäuser*. So far the repeated trials of these homes for consumptives have failed for want of patients.

Of late, the erection of such homes for the incurable has been abandoned, and attention turned to building special hospitals for consumptives in which, besides the curable cases (for which alone the public sanatoria are reserved), also incurable cases can be received and permanently cared for. The city of Berlin contemplates the erection of such a special hospital, with 500 beds. Such a hospital would afford the great advantage that it would relieve the general city hospitals of the burden of the incurable consumptives who take up the room needed by other patients and are a continuel burden on the physicians and nurses.

Deterioration of the Physical Development of Country People and Their Food.

By a decree of the Prussian minister of education, the medical councils are required to give an opinion on the question whether a deterioration in the physical development of the rural population has been observed, and whether it can be connected with the lessened consumption of milk and buttermilk. The occasion of this is the observation made in several places that, in connection with the increase of dairies, the rural population are suffering in their food and development because, in consequence of the sale of the available whole milk, the demand of their own households for milk is no longer fully supplied, and the use of the less valuable skim milk or inefficient substitutes is favored. From the observations made in Switzerland it is feared that the resisting forces may be reduced in consequence of the lack of the strength-giving milk in the diet. This apprehension has not yet been confirmed so far as Prussia is concerned, but in the meantime further data relating to the subject are to be furnished by the medical councils (*Aerztekammer*).

VIENNA LETTER.

The Thalassotherapeutic Congress.

The International Congress on Thalassotherapy was held at Abbazia, an Austrian south coast health resort, September 25-28. It was attended not only by numerous physicians from the different seaside places in Austria, Germany, France, Holland, Belgium and Italy, but also by several eminent men of science, like v. Leyden, who thus indicated their belief in the future of thalassotherapy. From the large number of papers read before the congress, only a few may be mentioned here which appeal more to the general practice. The indications for and the nature of thalassotherapy were explained by Drs. Nussbaum, Gol, Glax, Kurz and Baudouin. Three factors are concurring to bring about the favorable effect of a protracted stay at a suitable seaside place: The fresh pure air, with its abundance of ozone and lack of dust, the sunshine, to which the bather is generally exposed and the chemicophysical action of the sea water. As regards the last-named factor, a distinctive feature of the various sea places is the temperature and the specific gravity of the water. While in some places, especially on the North Sea, the temperature hardly ever exceeds 68 F., with a specific gravity of the water of 1.05, the Adriatic has a density of the water of 1.12-1.30, sometimes reaching even considerably higher figures. Consequently, a stay of 20 minutes in the water is considered a long one in the North Sea, while in the Adriatic an hour may be safely passed in the water, since its temperature is often more than 77 or 80 F. Papers on the influence of the sea climate on tuberculous affections were read by Drs. Hennig and Mol, as well as Professor von Leyden. The leading points of the papers and of the discussion which ensued showed that all authors thought that *patients with incipient tuberculosis* of the respiratory organs and surgical tuberculosis, that was not too far advanced, would derive material benefit from a stay in a cool, not too breezy seaside place.

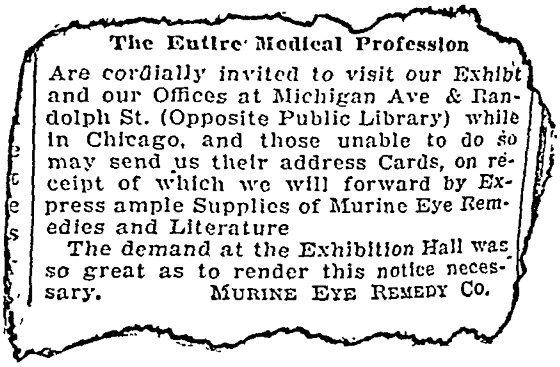
Pharmacology

MURINE EYE REMEDY.

A Nostrum with an Alleged College of Ophthalmology for a Side Line.

To be all things to all men is the alpha and omega of successful advertising. An address to Bowery toughs in terms of Chesterfieldian elegance not only would fail to carry conviction, but might lead to mob violence on the part of the audience. This principle, which is recognized by all astute advertisers, is beautifully exemplified in what follows.

Murine Eye Remedy is an "eye lotion" advertised in street cars, on bill boards and fences and in the daily press. During the Chicago session of the American Medical Association the promoters of this nostrum conceived the idea that it might as well work *the medical profession in a way that has become classic among certain manufacturers.* The following appeared in Chicago newspapers:



The Entire Medical Profession

Are cordially invited to visit our Exhibt and our Offices at Michigan Ave & Randolph St. (Opposite Public Library) while in Chicago, and those unable to do so may send us their address Cards, on receipt of which we will forward by Express ample Supplies of Murine Eye Remedies and Literature

The demand at the *Exhibition* Hall was so great as to render this notice necessary. MURINE EYE REMEDY CO.

To lead the public to infer that this company had an exhibit at the American Medical Association meeting was a masterstroke of advertising mendacity. The fact that a large proportion of the laity has confidence in physicians is recognized by the Murine Eye Remedy Company in its advertising to the general public, and the approval which physicians accord their preparation is enlarged on.

To those unstable individuals, however, who embrace the various 'pathies and 'isms, and to whom a decent medical man is a *bête noire*, this company appeals through the various freak publications which pander to this class. In one of the best known of this type of periodicals is a three-quarter page advertisement of Murine—the balance of the page being taken up with quotations from Ernst Renan on religion, Wordsworth on nature and Swedenborg on love. The antimedical faddists are told that "a group of business and professional men in Chicago recently banded together to give an ailing public an eye lotion that will further the interests of humanity." How this altruistic spirit does pervade the "patent medicine" fraternity! Everything is done for "humanity"—providing "humanity" will pay the bill! "Of course," continue our eye remedy friends, "many of the Learned Guessers object to this lotion, saying 'things' about it whenever they get the chance—that's natural." Perfectly! "So let the Learned Guessers howl—to howl is an M.D.'s privilege".

WHAT MURINE WAS—AND IS.

Before the advent of that potent influence for commercial veracity, the Food and Drugs Act, the carton in which this "eye water" was sold read as follows:

MURINE
A POSITIVE CURE
FOR SORE EYES, RED, INFLAMED AND ITCHING LIDS

Since that law has become operative and a lying label has become illegal instead of merely immoral, the carton bears this legend:

MURINE
A RELIABLE RELIEF
FOR SORE EYES, RED, INFLAMED AND ITCHING LIDS

In the pamphlet which accompanies each bottle of the preparation, we are told that Murine is "compounded by Eye Specialists who have used it successfully in their private practice as Oculists for over twenty years." "Murine is Indicated in Cases of Weak Eyes, Inflamed Eyes, Tired Eyes, Strained Eyes, Children's Eyes, Itching Eyes, Blurring Eyes, Red Eyes" and numerous other kinds of eyes—in fact, Murine is "a Favorite Lotion for those who wear Artificial Eyes."

One is carried back to that delightful character of Mark Twain's, "Colonel Sellers," who was about to put on the market his "Infallible, Imperial, Oriental Optic Liniment and Salvation for Sore Eyes—the Medical Wonder of the Age! Small bottles fifty cents, large ones a dollar."

The composition of such a unique and universal remedy for all the ills the eye is heir to will naturally interest physicians. Analyses made in the Chemical Laboratory of the American Medical Association gave the following results:

CHEMISTS' REPORT ON MURINE.

Murine as found on the market to-day is an amber colored liquid, practically odorless, having a slightly bitter taste, and giving an alkaline reaction to litmus. From the examination detailed below[1] we conclude that Murine is essentially an aqueous solution of borax (2.6 gm. per 100 c.c. or 12 grains to the fluid ounce), containing a trace of berberin or some golden seal preparation.

It is interesting to note that Murine is variable in composition. A sample examined Nov. 30, 1907, contained a carbonate and responded to alkaloidal tests very feebly; while the product to-day contains no carbonate and shows definite traces of alkaloids.

One wonders to what extent the therapeutic action of Murine is due to the price charged for it. If instead of paying $1.00 an ounce—the price charged—the public could buy it for 5 cents a gallon—the estimated cost—would the removal of such a potent psychic influence have any effect on the virtues of the preparation? The question is not one to be lightly disposed of or settled off hand.

In all seriousness, however, the law which permits men engaged in such a business to continue the practice of medicine seems lamentably weak. It would seem that the medical profession, if not for its own self-respect, at least for the protection of the public, should have some means of making clear to that public the difference between ethical practitioners of medicine and those who, posing as such, conduct a business whose success lies in humbugging and deluding the innocent.

ITS PROMOTERS AND THEIR "COLLEGE."

The president of the Murine Eye Remedy Company is James B. McFatrich, M.S., M.D., an eclectic physician of Chicago; the treasurer is George W. McFatrich, M.D., also an eclectic practicing in Chicago. O. F. Hall is the secretary. These three men are also said to be the directors of the company. The McFatrichs are the originators and practical owners of the business.

In addition to their "patent medicine" interests, the McFatrichs are, respectively, the president and secretary of a school of spectacle fitters rejoicing in the sonorous title of the "Northern Illinois College of Ophthalmology and Otology." This seat of learning confers no fewer than seven degrees, to-wit:

FELLOW OF OPTICS
BACHELOR OF OPTICS
DOCTOR OF OPTICS
BACHELOR OF OPHTHALMOLOGY
MASTER OF OPHTHALMOLOGY
DOCTOR OF OPHTHALMOLOGY
HONORARY DEGREE

The diplomas issued are, it is needless to say, most ornate, and are well calculated to inspire the mere "layman" with a healthy respect for the erudition of their possessors. As the "college" catalogue states, most of the diplomas "frame handsomely 28 x 28 inches."

Why the term "otology" is added to the title of the "college" has not yet been determined. As far as can be learned, the eye is the only organ which is even supposed to be studied. Possibly "otology" is thrown in for good measure. Incidentally, we would suggest that as fitting of glasses is taught instead of ophthalmology, the latter term would seem to constitute misbranding—but, then, the Food and Drugs Act doesn't apply here.

The catalogue is profusely illustrated with reproductions of the diplomas, and full page half tones of the "professors" and of the class rooms. The pictures show large advertisements of "Murine" on the walls of the class rooms, the general office being particularly well supplied with these works of art.

The "college" itself is hardly as imposing as its name might indicate. The illustrated cover of the catalogue and the catalogue itself convey the impression that the "Northern Illinois College—", etc., is located in the Masonic Temple, one of the largest office buildings in Chicago. As a matter of fact, it is on the third floor of an old building in the wholesale grocery district, and the Murine Eye Remedy Company occupies the same floor. The "college," in fact, appears to be a sort of annex to the "patent medicine" concern. The only apparent connection between the college and the Masonic Temple is that its "President and Professor of the Principles of Ophthalmology and Otology"—James B. McFatrich, M.S., M.D.—and its "Secretary and Professor of Clinical and Didactic Ophthalmology and Otology"—George W. McFatrich, M.D.—have their offices in the latter building.

These gentlemen evidently believe that not only "to howl is an M.D.'s privilege," but also that to commercialize the profession of medicine is equally his privilege. Whether selling a "course" in optics with a "diploma" thrown in for $25.00, or dispensing Murine Eye Remedy at $1.00 an ounce, or treating patients professionally—all is grist to their mill.

And the public? Well, P. T. Barnum is authority for the statement that it likes to be humbugged. The danger in the indiscriminate use of this eye water is probably a negative one in most cases. It may, however, by lulling the patient into a false sense of security, and by causing him to temporize, be a very real one. This is realized when we see its use recommended in ophthalmia neonatorum and other conditions equally serious. But "the law allows it," and, as our old friend Colonel Sellers remarked, "There's millions in it."

A German Opinion of the Antinostrum Work.

In a letter from the United States in the *Deutsche medizinische Wochenschrift* September 10, after describing the Chi cago session of the American Medical Association the writer says:

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[1] Qualitative tests of murine showed the presence of borax and some organic substance, responding to the general alkaloidal tests. Estimation by the method of Thomson (*Jour. Soc. Chem. Indust.*, xii, p. 432), in which the agreement between acidimetric and alkalimetric titrations showed that the solution contained borax as such, demonstrated the presence of 12 grs. to the fluid ounce, or 2.59 gm. per 100 c.c. of crystallized borax.

The color of the preparation suggested the possible presence of golden seal, which was tested for as follows: Twenty-five c.c. of Murine was acidified and then extracted with chloroform; it was then made alkaline and again extracted with chloroform. The second extraction evaporated to dryness, left a yellow residue weighing 0.0046 gm. or 0.0183 gm. per 100 c.c. This residue was soluble in acidulated water, and the addition of an aqueous solution of potassium iodid to the solution a yellow flocculent precipitate was formed, a reaction very characteristic of berberin. The filtrate from this precipitate yielded a dark brown precipitate with iodin, demonstrating the presence of an alkaloid. The precipitate was decomposed with sodium sulphite and again extracted with chloroform and the chloroform extract evaporated to dryness. The residue thus left was slightly yellow and responded to alkaloidal tests. The reactions thus obtained indicate that Murine contains berberin or a preparation of golden seal.

"The Journal of the A. M. A. has over 50,000 subscribers. This will make a peculiar impression on the editors of your medical journals. The enormous influence of The Journal is clear, especially when one realizes that every week several pages are devoted to the campaign against quackery and nostrums. On account of its large circulation, The Journal is able to reject the advertisements of secret medicines, and the more reputable competing journals are compelled to follow its lead to a greater or less extent. Dozens of the minor medical journals are, of course, obliged to accept advertisements of this kind: many, in fact, draw their subsistence from this source, and some are actually merely what are called 'house organs'—just the same as in Germany, including medical write-ups to order for pay."

Correspondence

Dr. Hamill Not Dead.

Guthrie, Okla., Oct. 27, 1908.

To the Editor:—In The Journal, October 10, page 1275, appears the death notice of Dr. John Ransom Hamill of this place. I am happy to state that this is a mistake. While Dr. Hamill has been very ill for a long time, he is now convalescing nicely and hopes to be out again soon.

The report got out here in Guthrie that Dr. Hamill had died on September 25, but how it became circulated no one seems to be able to tell. E. O. Barker.

A Courteous Critic.

New York, Oct. 29, 1908.

To the Editor:—Your remarks on the death of Prof. Dr. v. Poehl are both indecent and offensive. I do not intend to employ servants to circulate scurrilous statements, nor do I care to receive them through the mails.

Reynold Webb Wilcox.

[Comment: We publish the above as a model of the decent and inoffensive in correspondence. The matter referred to appeared two weeks ago in the letter of our Berlin correspondent, a man who stands high in the profession in Germany, and who is in a position to know whereof he writes. *De mortuis nil nisi bonum* is a rule that should ordinarily be observed. Probably, however, when our Berlin correspondent saw Spermin (Poehl) advertised in illustrated weeklies along with lost manhood restorers and bust developers, he felt that this rule did not apply. Professional nostrum promoters can hardly expect to receive obituary notices which will be altogether comforting to their friends and sympathizers.—Ed.]

Epilepsy Affected by Intercurrent Disease.

Baltimore, Oct. 30, 1908.

To the Editor:—The Journal, October 24, refers to Dr. S. Weir Mitchell's request for information concerning the effect of certain diseases on epilepsy.

In "Epilepsy and Its Treatment" (W. B. Saunders Co., 925 Walnut St., Philadelphia), pages 387-388, will be found data on this point under the heading, "The Influence of Concurrent Diseases on Epilepsy." Mention is made of several diseases, including malarial fever, typhoid fever, erysipelas and diphtheria, the influence of which on epileptic attacks was apparently marked. Since that book was issued, other instances have come to my attention in which an internal disease arising in an epileptic checked the manifestations of that disease completely for longer or shorter periods. In some cases, when pulmonary tuberculosis arose, and the disease was active from the outset, the attacks of epilepsy did not recur at all for more than three years. Scarlet fever will have the same effect and so will pneumonia.

The study of this question is interesting in that it may indicate a method of treating epilepsy, which is but little cultivated or understood to this time.

William P. Spratling.

Dilatation or Volvulus of the Stomach.

Denver, Oct. 27, 1908.

To the Editor:—I have read with much interest a clinical note by Dr. W. R. Houston entitled "Acute Dilatation of the Stomach, Report of an Unusual Case," in The Journal, October 24, page 1424.

Taking it for granted that Dr. Houston recorded every symptom of importance—namely, that the woman was taken with sudden abdominal pain which was referred to the upper quadrant, that the distention was at first more marked on the right side and later became universal, and that the heart and liver were considerably displaced upward—I beg to submit my opinion that the case was not one of dilatation of the stomach, but of volvulus of the stomach. The differential diagnosis between dilatation of the stomach and that of volvulus of the stomach is the absence of vomiting in the latter, and the presence of copious vomiting in the former. The facts that vomiting is not recorded, that ineffectual attempts were made to introduce a stomach-tube, that water administered by the mouth was regurgitated after ten or fifteen minutes, that when the wall of the stomach was punctured there was a loud explosion of gas, and that only half a pint of dark acid contents was found in the stomach, conclusively prove that Dr. Houston unknowingly recorded the first case of volvulus of the stomach in this country. The symptom-complex of Dr. Houston's case comprises every detail characteristic of volvulus of the stomach as recorded in an article under the same title published in *American Medicine*, Oct. 31, 1903, vi, 709.

C. D. Spivak.

The Work of the National Commission on Country Life.

Ithaca, N. Y., Oct. 28, 1908.

To the Editor:—I am much interested in the editorial in The Journal, August 22, on the work of the Commission on Country Life. This commission is appointed, not for the purpose of investigating the farmer or technical agricultural questions, but to study the general social, sanitary and economic conditions of country life. The commission will not be able in its brief existence to make any thorough investigations into any of these questions, but it will be possible for it to arrive at a good estimate of rural conditions, and to secure the opinions of the best men as to what needs to be done in respect to the larger questions of country life. The commission is specially anxious to secure the cooperation of those persons who are competent to give opinions in regard to the sanitary conditions of the rural country. In this respect The Journal could render the commission great aid by suggesting how such opinions could be secured and by itself securing them through correspondence with its subscribers. We should like to have these questions discussed also in the various medical societies. Possibly you can suggest the best way whereby discussions of this kind could be set in motion. Perhaps these discussions could best be started through the medical journals themselves.

The commission will be very glad to be put in the way of receiving such information as the medical journals may collect in regard to the sanitary and dietary condition of the open country. The commission will soon begin to hold hearings in different parts of the country. We shall hope that practitioners who have had special touch with country conditions will be present at the hearings and give us the benefit of their opinions.

We should also be glad if physicians and sanitarians would care to join the commission on any part of its journey. We are hoping, for example, that Dr. Stiles will be with us in the southeastern country, in order to point out the effect of the hookworm on the people in certain communities.

We shall be glad to receive any suggestions from the medical profession in regard to the general subjects on which the commission is to make inquiries.

L. H. Bailey,
Chairman Commission on Country Life.

Book Notices

Diseases of the Spinal Cord. By R. T. Williamson, M.D. (London). F.R.C.P., Assistant Physician, Royal Infirmary. Cloth. Pp. 432, with illustrations. Price, $5.50. London: Oxford University Press, 1908.

This is an entirely modern and fairly complete review of the subject, in 432 pages. The first sixty pages, three sections, are devoted to a general anatomic, histologic and physiologic introduction. Section IV, twenty-seven pages, is devoted to the symptoms of spinal disease, and while many of these symptoms are sometimes caused by other affections, their enumeration is germane to the subject, and this chapter, it is to be hoped, may serve to clarify in some medical minds the rather cloudy apprehensions of such ordinary things as the knee-jerk, the Achilles jerk and the plantar reflex. It might be noted that though the excellent table relating to the plantar reflex is taken from Collier, Dr. Williamson gives all credit of discovery to Babinski, whereas it is well known that, following a suggestion of Sir William Gowers, Collier covered the same ground as did Babinski, at the same time and independently of the French investigator. He had not the good fortune to publish his findings quite so early.

A short section, which doubtless will often be useful, is devoted to electric examination, but Dr. Williamson, like most others, fails to simplify the subject. Just why lumbar puncture should be considered in this section is not obvious, but the matter is good and also timely. When it was found that lumbar puncture was not of much therapeutic value, its use in this country almost ceased to arouse interest. In selected cases its diagnostic value is undoubtedly great.

In his consideration of the diseases of the spinal cord, Williamson adopts a very novel grouping—a grouping quite unscientific, but exceedingly practical, especially for the general practitioner, namely:

1. Diseases in which the prominent symptoms are those of a transverse lesion of the cord.
2. Diseases in which the prominent symptoms are those of atrophic paralysis.
3. Diseases in which the prominent symptoms are those of spastic paresis or paralysis.
4. Diseases in which the prominent symptoms are those of ataxia.

To put in the same group such pathologically diverse affections as spinal hemorrhage, acute myelitis, tumor of the cord and spinal caries is certainly to do violence to the feelings of him who insists on pathology as the basis of nosology. Indeed, at first glance, such a classification seems almost grotesque. But in practice a patient does not present himself as a sufferer from inflammation or neoplasm or degeneration, but as one afflicted with paraplegia, hemiplegia, ataxia or pain, as the case may be. Whether he wishes so to do or not, whether he is conscious of it or not, the practitioner must, in his mind, make and use some such grouping as Dr. Williamson has formally made in this book.

The text of the chapters on these diseases is excellent; in the main, clear, concise, sufficiently full, not redundant, up to date in pathology, symptomatology and treatment. An exception must be made in that part devoted to treatment of spinal cord syphilis. No mention is made of intramuscular or intravenous injections of mercury, and Williamson, like so many of his European colleagues, seems to know little or nothing of such doses of iodid as are currently used in this country. To consider sixty grains a day as a maximum dose is incomprehensible to most of us. To be sure, Williamson does mention "a much larger quantity," but as if alluding to an apocryphal gospel. A brief but adequate description of the Frenkel exercises for tabes will be of great assistance to those not familiar with Frenkel's book.

That part of Section X devoted to combined disease of the posterior and lateral columns of the cord is somewhat disappointing. While the ataxic paraplegia of Gowers, the subacute degeneration of Russell, Batten and Collier, the diffuse degeneration of Putnam, the cord changes of pernicious anemia, etc., are all described, and while Dr. Williamson evidently recognizes their intimate relationship, apparently he has not had quite the courage of his convictions, and so describes separately and as separate things what are simply varieties of the same thing, or the same thing under different circumstances. Section XIII, eight pages, is a very sketchy and entirely inadequate consideration of traumatic lesions of the spinal cord: a section which would much better have been left unwritten, as it is of little practical value.

On the whole, this book is a good book, a safe book, and can be heartily recommended to practitioner and student. The illustrations are good, nearly all original, and are truly illustrative.

In the preface, Dr. Williamson recommends certain medical journals. Omission of the *Revue Neurologique* is surely an oversight, because it certainly is not excelled by any neurologic publication.

Pulmonary Tuberculosis and Its Complications. By Sherman G. Bonney, A.M., M.D., Professor of Medicine, Denver and Gross College of Medicine, Denver. Cloth. Pp. 778, with illustrations. Price, $7.00. Philadelphia: W. B. Saunders Co., 1908.

Dr. Bonney's avowed aim is to present a volume for the general practitioner and to produce a work essentially devoted to the clinical phases and practical considerations of pulmonary tuberculosis. We believe that Dr. Bonney has given us one of the best volumes in English on this topic.

About one-eighth of the text is allowed to the etiology, routes of infection and pathology. The remainder of the work is directly clinical and intensely practical, embracing the most detailed description of the modes of onset, symptomatology of the confirmed stage of the disease, the complications, diagnosis and treatment. The physical signs are carefully considered, both in their verbal description and their illustrated exposition by numerous cuts and *x*-ray photographs.

With a few chapters the subjects of which furnish a good field for strong, elaborate treatment, one feels a little disappointed, as, for instance, those on miliary tuberculosis, tuberculous pleurisy and tuberculous peritonitis.

Perhaps the strongest section is that on therapy. Dr. Bonney has been at great pains to detail clearly and to elaborate every minute point in the every-day management of pulmonary phthisis. In all, this contribution is careful, systematic, scientific and eminently practical.

An Alabama Student, and Other Biographic Essays. By William Osler, M.D., F.R.S., Regius Professor of Medicine, Oxford. Cloth. Pp. 334. Price, $2.50. New York: Oxford University Press, American Branch, 1908.

This is a series of addresses delivered during the years 1894-1906 before various societies, all but two—those on Sir Thomas Brown and on Harvey and His Discoveries (Harvey Oration, 1906) having been delivered in this country. "The Alabama Student," who gives the title to the book, was Dr. John Y. Bassett of Huntsville, Alabama, who died in 1851; "a man of whom you have never heard, whose name is not written on the scroll of fame, but who heard the call and forsook all and followed his ideal." The story of Bassett is told mostly by quotations from his letters and from his writings. It is the story of a country doctor who was a remarkable man in many ways, but especially in the courage he displayed and the sacrifice he made in his determination to perfect himself for his chosen work. This determination caused him, after building up a practice, to give this up and leave wife and children, whom he dearly loved, and go to Paris, at that time the Mecca for medical men. On his return he seems to have settled down among his old patients, applying the new knowledge for their benefit, but dying of consumption at the early age of 46—dying practically unknown outside of his own little sphere of action. And it seems he would not have been "found" by Osler had it not been for two articles which were published in *Southern Medical Reports*, 1850-1851. These and his letters show him to have been an unusual man; and probably had he lived the allotted time, he would not have been left to be discovered by someone in the twentieth century, but the world of fifty years ago would have known of this Alabama student.

Another doctor of the olden times whose name and deeds are not so well known as they should be was Elisha Bartlett, a Rhode Island philosopher. While born in Rhode Island, he seems to have spent more time out of than in his native state; and unlike our Alabama student, this Rhode Island philosopher seems to have moved around considerably. But this was because he was one of the group of peripatetic medical professors, as Osler describes them, who did more teaching than practicing, and did that teaching in many institutions. Bartlett taught in nine, one being the medical department of the Transylvania University, away out west, at Lexington, Ky.

The other Americans who are subjects of these biographic essays are Oliver Wendell Holmes, William Beaumont—under the title "A Backwoods Physiologist"—William Pepper and Alfred Stille. Other addresses are on "Thomas Dover, Physician and Buccaneer," "Keats, the Apothecary Poet," John Locke, Sir Thomas Browne, M. Louis—in "The Influence of Louis on American Medicine"—and Frascatorvius.

The lives of successful men are always a stimulus and make profitable reading. Aside from the information they contain, there are few records of the lives of such men but contain some one or more lessons that we can take to heart. This is especially true when the men are of our own calling, as in this case. Osler has a happy faculty of presenting any subject, and this is emphasized in these biographic sketches. They are therefore interesting as well as instructive.

Therapeutics; Its Principles and Practice. By Horatio C. Wood, M.D., LL.D., Emeritus Professor of Materia Medica and Therapeutics in the University of Pennsylvania. Revised and rewritten by Horatio C. Wood, Jr., M.D., Associate Professor of Pharmacology in the University of Pennsylvania. Fourteenth Edition. Cloth. Pp. 778, with illustrations. Price, $5.00. Philadelphia: J. B. Lippincott Co.

The issue of the fourteenth edition of any medical text-book indicates that it has filled a needed place and that it must have been kept up so as to answer the demands occasioned by the advance of science. The last edition of Wood's text-book shows more extensive alterations than does any previous edition for many years. The work has been done by Horatio C. Wood, Jr. The preface to the first edition presents a strong plea for a rational therapeutics founded on facts derived from experiment. The work has always been a good representative of the existing state of science; and it continues to be such a representative, for in the present edition reports of recent discoveries have been carefully incorporated.

The arrangement of the book is such as to facilitate study. Instead of resorting, as some text-books do, to the easy but unscientific method of alphabetic classification, Dr. Wood gives one based on the pharmacologic action of medicines. On the other hand, the individual drugs are considered separately, which we believe is better for the practitioner, if not for the student. It is disappointing to search a text-book for facts regarding the action of a drug to find only general statements regarding the group. The arrangement of the text is such that the important facts which the student should learn are given in larger type and the details which interest the special investigator are placed in fine print. An excellent feature is the full bibliography placed at the end of the sections. The references are brought up to 1906. The problematic value of digestant remedies is insisted on.

Since therapeutics is the aim of practical medicine, and since correct therapeutics must be based on the science of pharmacology, it is to the interest of every practitioner to review frequently and thoroughly the scientific bases of his therapeutic measures. We know of no treatise that will serve his purpose better than the book before us.

Thomas Linacre. By William Osler, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford. Cloth. Pp. 64. Price, $0.75. Cambridge: University Press, 1908.

This little work constitutes the first of a series of annual Linacre lectures at Cambridge, substituted by St. John's College (with which the original foundation rests) for the lectureship rendered vacant on the translation of Dr. Donald MacAlister from Cambridge to Glasgow. Osler appropriately devotes his lecture to a brief biographical note of the great English physician and then, after the style that it is fashionable to term an "appreciation," discusses Linacre as a medical humanist and as a grammarian. The little volume closes with an account of the Linacre foundations—the Linacre lectureships at Oxford and Cambridge, and the much more important Royal College of Physicians of London, of which Linacre was not only one of the founders, but in 1518 the first president. The work is embellished with two portraits of Linacre and six reproductions of title pages of the more famous of Linacre's works. It collects from many widely scattered sources material concerning a well-known but poorly known-of man, and will, therefore, be a welcome addition to the library of the student of medical biography and history.

Essentials of Surgery. By Alwyne T. Compton, F.R.C.S. Cloth. Pp. 428, with illustrations. Price, $1.50. Chicago: W. T. Keener & Co., 1908.

This compend of over 400 pages is unusually complete, much information being expressed in the most compact manner. There are a number of good diagrammatic illustrations and the differential diagnostic tables are very useful. It will lend itself very well to quick reference.

Queries and Minor Notes

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

DIASTASIC POWER OF SALIVA.

Chicago, Oct. 22, 1908.

To the Editor:—1. Is the use of diastase, malt extract, etc., founded on any experimentally proved lack of diastasic power in the saliva?

2. In deciding on the use of malt extract, would it be practicable for the physician to test the saliva, and make this his guide in the use of the remedy?

3. In what proportion of cases is the saliva deficient in diastasic power?

4. What is meant by amylaceous dyspepsia? Is there any proof that undigested starch in a finely divided condition is irritating to the stomach?

X. Y. Z.

Answer.—1. No. The therapeutic use of diastase or malt extract did not result from any line of experiment, showing diminished activity of the ptyalin, but from the well-known test-tube effect of diastase on starch and the assumption that a starch ferment would be useful in cases of starch indigestion and bacterial fermentation in the gastrointestinal tract. The physiology of salivary secretion and starch digestion would seem to contraindicate the use of diastase. It is generally accepted that, normally, salivary secretion results from reflex stimulation of the secretory nerves during mastication; and psychic conditions also seem to be a factor. Recently Nelson and Lewis have shown by experimenting on dogs that the secretion of ptyalin occurs on a starch diet, and furthermore, diminishes on a meat diet. Both Cannon and Grützner have demonstrated that after food enters the stomach, it remains in the fundus in a quiescent state for from twenty to forty minutes. Within the center of this mass, which has been mixed with the saliva containing the two ferments, amylase and maltase, starch digestion may progress because it is protected from the acid gastric juice; but as soon as the hydrochloric acid of the stomach comes in contact with the diastase the ferment action is at once destroyed. In order to imitate the normal process it would be necessary to mix each mouthful of food with mucus, simultaneously combining it with the artificial diastase to protect the ferments from the acid secretion in the stomach. If the artificial diastase be taken before or after meals it would not mix with the food mass, but would come into immediate contact with the gastric juice and its activity would be destroyed. The researches of Croft Hill first demonstrated the reversibility of ferments. He used maltase in his experiment and showed that an excess of this diastase not only stopped all digestion of starch, but produced a synthesis of that part already hydrolyzed.

2. The digestive power of the saliva on starch may be tested by diluting the saliva in various degrees and noting the time it takes to form erythrodextrin and achroodextrin, but this test gives no practical results, inasmuch as the strength of the secretion varies and no estimate can be made clinically of the total quantity formed.

3. It is rather rare to find cases in which the saliva is deficient in diastasic power, and furthermore, an increase of amylase and maltase is also rare.

4. Amylaceous dyspepsia is a crude unscientific term—a misnomer applied to symptoms arising from fermentation, flatulence, etc. Even when exact examinations are made, such as the demonstration of undigested starch in the feces, one can not conclude from such an examination that there is a deficiency of starch ferments. Excessive acidity in the stomach, we may conclude, interferes with starch digestion, but motor insufficiency in the stomach is more often a responsible factor for so-called amylaceous dyspepsia.

FORMULA OF STARCH AND LAUDANUM ENEMA.

Flemington, W. Va., Oct. 23, 1908.

To the Editor:—Will you kindly publish in The Journal the method of preparing the starch and laudanum enema?

I. Davisson.

Answer.—There is no official formula for this enema. Few authors of text-books give specific directions, but state that a dose of laudanum varying from fifteen minims to one fluidram should be given in starch water. Yeo says: "Each enema should consist of fifteen minims of laudanum with an ounce of cold mucilage of starch." Mucilage of starch should be made by rubbing up starch to a paste with cold water, pouring this into boiling water, and continuing the boiling until a clear, thin mucilage results. The laudanum should be added after the mucilage is cool. The dose should be varied according to the age of the patient. The enema should not be repeated oftener than once in two hours.

LANTERN SLIDES FOR CUTANEOUS DISEASES.

Stettin, Germany, Oct. 5, 1908.

To the Editor:—In The Journal of August 22 I found a query asking where lantern slides could be obtained to illustrate contagious diseases. The *moulcur* of the late Dr. Lassar's clinic has a very beautiful collection of lantern slides, nicely colored, and sells them at $1 apiece. His address is, I think, or can be obtained from Dr. Lassar's clinic, Berlin, N. W. Karlstr, 19., Mr. Kasten.

W. Lehmann, M.D.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Oct. 31, 1908.

Grubbs, R. B., capt., ordered from Ft. McIntosh, Texas, to Ft. Sam Houston, Texas, for observation and treatment.

Huber, E. G., lieut., relieved from further duty with Co. C, H. C., at General Hospital, Washington, D. C., and ordered to Ft. Slocum, N. Y., for duty.

Rhoads, T. L., capt., ordered to Washington, D. C., for examination for promotion.

Quinton, W. W., capt., granted an extension of two months to his sick leave of absence.

Lynch, Charles, maj., ordered to inspect Hospital Corps Detachments of the New York National Guard in New York City.

Bingham, E. G., capt., ordered to inspect Hospital Corps Detachments of the New York State National Guard in Buffalo, Rochester and Binghamton, N. Y.

Rockhill, E. P., capt., ordered to Denver for examination by an Army retiring board.

Wheate, J. M., M. R. C., relieved from duty at Ft. Yellowstone, Wyo., and ordered to Ft. Lincoln, N. D., for duty.

Stockard, J. K., M. R. C., granted leave of absence for one month, about December 5.

Hasseltine, H. E., M. R. C., left Ft. Thomas, Ky., on leave of absence for two months.

Sanford, J. L., M. R. C., granted leave of absence for one month.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Oct. 31, 1908.

Munger, C. B., asst.-surgeon, detached from the *Maine* and ordered to the Naval Hospital, Portsmouth, N. H.

McCormick, A. M. D., surgeon, detached from the Naval Recruiting Station, Baltimore, and ordered to the *Maine* as fleet surgeon of the Third [illegible] leet.

Elliott, M. [illegible] 1 from the *Maine* and ordered to the Naval [illegible] D. C.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 28, 1908.

Eager, J. M., asst.-surgeon-general, detailed to represent the service on the committee on revision of the Nomenclature of Diseases, American Public Health Association.

Kerr, J. W., asst.-surgeon-general, granted two days' extension of leave of absence from Oct. 23, 1908.

Irwin, Fairfax, surgeon, on being relieved by Surgeon R. M. Woodward, directed to proceed to Arundel Cove, Maryland, and report to commanding officer of the Revenue Cutter *Snohomish* for duty.

Carrington, P. M., surgeon, leave granted Oct. 6, 1908, for six days, amended to read four days en route to join station.

Williams, L. L., surgeon, directed to proceed to Boston and assume command of the service.

McIntosh, W. P., surgeon, on being relieved by Surgeon Charles E. Banks, directed to proceed to Baltimore, Md., and assume command of the service.

Woodward, R. M., surgeon, on being relieved by Surgeon L. L. Williams, directed to proceed to Detroit, Mich., and assume command of the service.

Wertenbaker, C. P., surgeon, detailed to represent the service at the meeting of the Virginia State Medical Society at Richmond, Oct. 22, 1908.

Lavinder, C. H., P. A. surgeon, directed to proceed to Columbia, S. C., on special temporary duty.

McMullen, John, P. A. surgeon, reassigned to duty at Immigration Station, Ellis Island, N. Y., to date from March 12, 1908.

Anderson, John F., P. A. surgeon, granted 17 days' leave of absence from Nov. 5, 1908.

Robinson, D. E., P. A. surgeon, granted one month's leave of absence from Nov. 5, 1908.

Creel, R. H., P. A. surgeon, directed to report for temporary duty in the Hygienic Laboratory, Nov. 1, 1908.

Smith, F. C., P. A. surgeon, directed to report for temporary duty in the Hygienic Laboratory, Nov. 1, 1908.

Sweet, E. A., P. A. surgeon, leave of absence for two months from Aug. 18, 1908, amended to read two months from Aug. 25, 1908. Granted one month's leave of absence from Oct. 25, 1908, on account of sickness.

Wood, Charles E., asst.-surgeon, on arrival of Assistant-Surgeon R. M. Grimm at Chicago, Ill., directed to proceed to Baltimore, Md., and report to the commanding officer of the Revenue Cutter *Seneca* for duty.

Preble, Paul, asst.-surgeon, directed to report to the Medical Officer in command at Marine-Hospital, Baltimore, for duty and assignment to quarters.

Grimm, R. M., asst.-surgeon, directed to proceed to Chicago, and report to Medical Officer in command of Marine-Hospital for duty and assignment to quarters.

Ridlon, Joseph R., ast.-surgeon, directed to report to the Medical Officer in command at Marine-Hospital, Stapleton, N. Y., for duty and assignment to quarters.

Bailey, C. W., acting asst.-surgeon, granted 14 days' leave of absence from Oct. 21, 1908.

Lyall, Robert, acting asst.-surgeon, granted five days' extension of leave of absence from Oct. 17, 1908, without pay.

Naulty, C. W., Jr., acting asst.-surgeon, granted three days' leave of absence from Oct. 19, 1908

Onuf, B., acting asst.-surgeon, granted 27 days' leave of absence from Nov. 1, 1908.

APPOINTMENTS.

Dr. Paul Preble commissioned (recess) as assistant surgeon in the Public Health and Marine-Hospital Service, Oct. 20, 1908.

Dr. R. M. Grimm commissioned (recess) as assistant surgeon in the Public Health and Marine-Hospital Service, Oct. 20, 1908.

Dr. Joseph R. Ridlon commissioned (recess) as assistant surgeon in the Public Health and Marine-Hospital Service, Oct. 20, 1908.

BOARD CONVENED.

Board of medical officers convened to meet at the Marine-Hospital, San Francisco, Nov. 9, 1908, for the purpose of making a physical examination of a Captain and Lieutenant of Engineers of the Revenue Cutter Service. Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. W. King, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 26, 1908.

SMALLPOX—UNITED STATES.

California: Berkeley, Sept. 28-Oct. 3, 1 case; San Francisco, Oct. 3-10, 2 cases.
District of Columbia. Washington, Oct. 3-10, 1 case.
Florida: Jacksonville, Oct. 3-10, 1 case.
Illinois: Chicago, Oct. 10-17, 1 case.
Indiana: Indianapolis, Oct. 3-11, 5 cases.
Ohio: Cincinnati, Oct. 3-10, 1 case; Dayton, 1 case.
Texas: San Antonio, Oct. 3-10, 1 case.
Wisconsin: Milwaukee ,Sept. 27-Oct. 3, 1 case.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Sept. 5-12, 4 cases, 1 death.

SMALLPOX—FOREIGN.

Arabia: Aden, Sept. 14-28, 21 deaths.
Canada: Winnipeg, Oct. 3-10, 1 case.
Ecuador: Guayaquil, Sept. 14-26, 2 deaths.
Egypt: Cairo, Sept. 19-26, 1 case, 1 death.
Grenada, Island: Sept. 19-26, 3 deaths.
India: Bombay, Sept. 15-22, 2 deaths; Calcutta, Aug. 29-Sept. 5, 3 deaths.
Indo-China: Cholen, Aug. 29-Sept. 5, 1 case, 1 death.
Italy: General, Sept. 29-Oct. 4, 22 cases; Naples, Oct. 3-10, 4 cases.
Norway: Christiania, Sept. 19-26, 11 cases, 1 death.
Russia: Moscow, Sept. 12-19, 3 cases 13 deaths; Warsaw, Aug. 29-Sept. 19, 17 deaths
Spain: Valencia, Sept. 19-Oct. 3, 4 cases, 1 death; Vogo, Sept. 26-Oct. 3, 1 death.
Straits Settlements: Singapore, Aug. 29-Sept. 5, 1 death.

YELLOW FEVER.

Barbados: Bridgetown, Oct. 10, 1 case, 1 death.
Mexico: Merida, Oct. 15, 1 case; Veracruz, Oct. 26, 1 case.
St. Vincent, Island: Oct. 4, 1 case.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 29-Sept. 12, 56 cases, 49 deaths; Provinces, 2,442 cases, 1,582 deaths.

CHOLERA—FOREIGN.

China: Amoy, Sept. 5-19, 9 deaths.
India: Bombay, Sept. 5-22, 2 cases, 2 deaths; Calcutta, Aug. 29-Sept. 12, 13 deaths; Rangoon, Sept. 5-12, 1 death.
Japan: Moji, Sept. 2-15, 33 cases; Wakamatsu, Aug. 25-Sept. 15, 6 cases, 3 deaths.
Russia: General, to Oct. 1, 19,612 cases, 8,947 deaths.
Straits Settlements: Singapore, Aug. 29-Sept. 5, 5 deaths.

PLAGUE.

Chile: Iquique, Sept. 21, 4 cases.
Ecuador: Babahoy, Oct. 4, 4 cases, 1 death.
Egypt: General, Sept. 25-Oct. 8, 14 cases, 10 deaths; Alexandria, 6 cases, 4 deaths; Port Said, 3 cases.
India: Bombay, Sept. 15-22, 26 deaths; Calcutta, Aug. 29-Sept. 12, 20 deaths; Rangoon, Sept. 5-12, 12 deaths.
Indo-China: Cholen, Aug. 29-Sept. 12, 7 cases, 6 deaths; Siagon, 1 case, 1 death.
Japan: Island of Awaji, to Sept. 26, 45 cases; Kobe, Sept. 12-19, 1 death; Nishinomiya, Sept. 26, present.
Peru: Galao, Sept. 12-26, 4 cases, 1 death.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

TEXAS State Board of Medical Examiners, Houston, November 10. Secretary, Dr. M. E. Daniel, Honey Grove.

CONNECTICUT Homeopathic Medical Board, New Haven, November 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand avenue, New Haven.

CONNECTICUT Eclectic Medical Board, Hotel Garde, New Haven, November 10. Secretary, Dr. T. S. Dodge, Torrington.

CONNECTICUT State Medical Examining Board, City Hall, New Haven, November 10-11. Secretary, Dr. Charles A. Tuttle, 196 York street, New Haven.

MAINE Board of Registration of Medicine, Preble House, Portland, November 10-11. Secretary, Dr. William J. Maybury, Saco.

FLORIDA: Regular Board of Medical Examiners, Jacksonville, November 11-12. Dr. J. D. Fernandez, Jacksonville.

WEST VIRGINIA State Board of Health, Wheeling, November 10-12. Secretary, Dr. H. A. Barbee, Point Pleasant.

MISSOURI State Board of Health, Kansas City, November 23-25. Secretary, Dr. J. A. B. Adcock, Warrensburg.

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, November 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

Teaching of the Fundamental Sciences.

In the *British Medical Journal*, October 3, Dr. Alexander MacAlister shows that, whereas formerly anatomy was the one dominant subject in medical education, now there are five sciences in which laboratory work has to be done. Of these he thinks that pathology and bacteriology should be studied in their entirety, as they bear on professional problems at every point. As for anatomy, physiology and chemistry, however, the domain of each of these sciences is too vast to be entirely covered by one student. In this day of specialization it is difficult enough to become conversant with the whole range of one subject, much more five. But, since for medical men, a knowledge of so many fundamental sciences is inexorably required, the teacher must select and lay stress on those parts of his subject which have a direct bearing on the physician's life-work.

The rapid advances in the fundamental sciences demand that they be taught by specialists who devote their lives to their respective subjects. The advantage of this is that he who knows best must speak with the greatest authority There is a danger, however, that the facts of most interest to the specialist may be of the least value to the practitioner. The teacher, therefore, should studiously omit that which is chiefly or wholly of academic interest. In drawing up the teaching schedule, therefore, much wisdom is required. MacAlister shows that in the proper selection of the parts of the subject to be taught the teacher is seriously handicapped if he has not had personal experience of the needs of the student by having gone through the whole of the medical course, and adds: "I should not feel myself fit to teach anatomy if I had not behind me the experience of ten years, both in private practice and as one of the surgical staff of a hospital."

The last reference is of interest in this country, since there seems to be a tendency toward the formation of medical departments by smaller universities and colleges, in which the fundamental sciences are taught almost entirely by teachers who are not graduates in medicine.

A Correct Attitude Regarding Reciprocity.

The Ohio Board of Medical Examiners states that some medical students, having preliminary education less than that required by the Ohio law, have been induced to attend medical courses in other states, hoping after graduation to obtain a license in Ohio through reciprocity. The board announces that such applicants will not be eligible to registration in Ohio, since, under the provision for reciprocity, the license of another state is accepted only in lieu of the written examination. In all other respects the applicant must satisfy the requirements of the Ohio law. That is certainly a proper ruling. Reciprocity is a measure which should be more generally adopted, but it must not be made a means of evading or lowering medical standards.

Maryland June Report.

Dr. J. M. Scott, secretary of the Maryland Board of Medical Examiners, reports the written examination held at Baltimore, June 16-19, 1908. The number of subjects examined in was 9; percentage required to pass, 75. Of the 137 applicants who were examined, 112 participated in the examination for the first time, and of these 86 were successful. Twenty-five applied for re examination in branches in which they had previously failed; of these, 7 were successful, working off all branches. Primary examinations require a general average of 75 per cent. Those re-examined are required to make 75 per cent. in each branch. Thirteen reciprocal licenses were granted at this meeting, and six candidates were licensed by special examination and under exemption clauses. The following colleges were represented:

PASSED.

College.	Year Grad	Per Cent.
George Washington University	(1907) 80; (1908))	75, 86, 87, 88
Georgetown University	(1906)	79
Howard University	(1907)	85
University of Maryland, (1905)*, (2, 1906), (3, 1907)*	(1907) 85; (1908)	75, 75, 75, 75, 75, 75, 76, 76, 76, 77, 77, 79, 82, 82, 83, 84, 86, 88, 89, 90.
Johns Hopkins Med. School,	(1907) 86; (1908)	75, 77, 77, 79, 80, 80, 81, 81, 84, 85, 85, 85, 90, 91.
Baltimore Med. Coll.	(1908)	75, 75, 78, 80, 81, 82, 83, 83, 83, 84, 84, 85, 88, 89.
College of P. and S., Baltimore	(1906)*, (1908)	78, 80, 81, 81, 85, 88.
Woman's Med. Coll., Baltimore	(1908)	76, 79, 81
Maryland Med. Coll	(1908)	78
Leonard School of Med	(1908)	80
University of Pennsylvania	(1897) 92; (1907) 80; (1908)	75, 80, 83, 86, 86, 88, 91.
Woman's Med. Coll. of Pennsylvania	(1908)	75, 80, 80, 83, 85
Jefferson Med. Coll.	(1908)	78, 81, 82
Vanderbilt University.	(1907)	78

FAILED.

College.	Year Grad	Per Cent.
George Washington University	(1907)* (1907)	68
Howard University.	(1907)*	
Maryland Med. Coll.	(1904)* (1905)* (2, 1906)* (2, 1907)* (1908)	57, 71.
Baltimore Med. Coll.	(1905)* (1905) 70; (2, 1906)* (1907)* (1908),	62, 68, 68, 70, 71, 72, 73.
College of P. and S., Baltimore	(1907)* (1907) 64, 72; (1908)	66, 73.
Woman's Med. Coll., Baltimore	(1908)	68, 69, 70
University of Maryland	(1904)* (2, 1907)* (1908)	60, 68, 70, 71, 71, 73.
Baltimore University.	(1907)* (1907)	71
Jefferson Med. Coll.	(1907)* (1908)	70

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with
Howard University.	(1895)	Dist. Colum.
Columbian University, Washington	(1904)	Dist. Colum.
Kentucky University.	(1904)	Indiana
Johns Hopkins Med. School	(1902)	Michigan
Baltimore University.	(1898)	New.Hamp.
College of P. and S., Baltimore	(1903)	W. Virginia
University of Maryland	(1904)	Virginia
University of Michigan	(1894)	Illinois
Long Island Coll. Hospital	(1893)	Dist. Colum.
Jefferson Med. Coll	(1890)	Maine
University Coll. of Med., Richmond	(1907)	Virginia
Wisconsin Coll. of P. and S.	(1903)	Wisconsin
University of Naples, Italy	(1899)	Maine

LICENSED BY SPECIAL EXAMINATION AND UNDER EXEMPTION CLAUSES.

College.	Year of Grad
	(1894)
College of P and S., Baltimore	(1884) (1886) (1891)
Baltimore Med. Coll	(1901)
Harvard Med. School	(1894)
University of Pennsylvania	

* Re-examined, no percentage assigned.

Rhode Island July Report.

Dr. George T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, July 2-3, 1908. The number of subjects examined in was 7; *total number of* questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 16, of whom 10 passed and 6 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
	(1908)	80.1
Georgetown University.	(1904)	80
Baltimore University.	(1908)	84.2
Boston University	(1890)	80
Harvard Med. School	(1907)	82.6
Tufts Coll. Med. School	(1905)	80
Miami Med. Coll	(1908)	83.8
University of Pennsylvania	(1903)	80.1
Medico-Chirurgical Coll., Philadelphia	(1908)	87.1
University Coll. of Med., Richmond		81
Non-graduate.		

FAILED.

Baltimore Med. Col'l	(1907)	72.1, 73.5
Baltimore University	(1906)	68.1
Laval University, Quebec	(1908)	75.4
University of Naples, Italy	(1903)	70.1
Non graduate	(....)	00.*

* Examination incomplete.

Marriages

Ralph L. Larsen, M.D., to Mrs. Mae Lee, both of Chicago, recently.

J. D. Whithall, M.D., Philadelphia, to Miss Ogden of Media, Pa., October 12.

Frank J. Devlin, M.D., to Miss Adele Devine, both of Newark, October 21.

George W. Mahoney, M.D., to Miss Julia Garvy, both of Chicago, October 21.

John J. Coady, M.D., to Miss Mildred Brinkerhoff, both of Mokena, Ill., October 21.

Frank Edgar Dolson, M.D., to Miss Mabel Vogen, both of Philadelphia, October 21.

George A. Sonneborn, M.D., to Miss Lilian Hess, both of Philadelphia, October 21.

Paul Oliver, M.D., Chicago, to Miss Elizabeth Lane of Rockford, Ill., October 28.

F. T. Cassidy, M.D., to Miss Gabriella Griffin, both of Fredericksburg, Va., October 22.

Lillian J. Pearcy, M.D., and Col. J. H. Brewer, both of Louisville, Ky., October 17.

Ernest Scott, M.D., to Miss Mabel Huddleson, both of Columbus, Ohio, October 14.

Albert H. Carter, M.D., to Miss Elizabeth Malcolm Stewart, both of Chicago, October 29.

C. Lewis Siegler, M.D., to Miss Mary R. Rufe, both of Doylestown, Pa., October 14.

William Elyet Byers, M.D., to Miss Amy Horton Rogers, both of Baltimore, October 14.

Daniel Crosby, M.D., to Miss Agnes Foster, Buchanan, both of Fruitvale, Cal., October 14.

Michael W. Murray, M.D., to Miss Celia Bucheit, both of New Decatur, Ala., October 27.

George Ensminger, M.D., Chicago, to Miss Elizabeth Lockwood of Peru, Ind., October 8.

William C. Zanting, M.D., to Miss Iva Mae Kauffman, both of Cleveland, October 15.

Charles Everett Farr, M.D., to Miss Helen Woodhull, both of New York City, October 22.

Alfred M. Hellman, M.D., to Miss Clarisse N. Bloom, both of New York City, October 12.

Mark E. Fleming, M.D., to Miss Sarah Louise Elstein, both of New York City, October 15.

Thomas McCrae, M.D., Baltimore, to Miss Marian Gwyn of Dundas, Ont., September 16.

Jesse S. Bean, M.D., Olaton, Ky., to Miss Birdie Harrison of Leitchfield, Ky., October 21.

John H. Overbaugh, M.D., Hartland, Wis., to Miss Gertrude Smith at Tomah, Wis., October 17.

Ezra Offutt Witherspoon, M.D., to Miss Nell Elliott Newman, both of Louisville, October 14.

Harry W. Bauer, M.D., Ketchilso, Alaska, to Miss Emma Farrar of Seattle, Wash., September 2.

Marshall B. Flowers, M.D., Albany, Ky., to Miss Mabel Willingham of Highway, Ky., recently.

Frank George Scammell, M.D., Trenton, N. J., to Miss Anna Reamer of Easton, Pa., October 28.

Leach K. Cracraft, M.D., Elm Grove, W. Va., to Miss Geneva McLure of Wheeling, October 24.

Eugene Young Willis, M.D., Montgomery, W. Va., to Miss Mary Clodius Harris of Lignum, Va., recently.

Hurdle Thomas McClain, M.D., to Miss Sarepta Byrde Livingston, both of Mooresburg, Tenn., October 14.

Walter H. Baker, M.D., South Bend, Ind., to Miss Ethel Carver of Indianapolis, at Hannibal, Mo., October 20.

Charles Richardson, M.D., Belair, Md., to Miss Cornelia Trimble Munnikhuysen, at Emmertin, Md., October 10.

Noble Sproat Heaney, M.D., Omaha, to Miss Floy Eleanor Chamberlin of Chicago, at London, England, October 15.

Michael J. Nestor, M.D., Providence, to Miss Marie Antoinette Agnew of Relay, Md., at Elkridge, Md., October 21.

Adrian C. Coogler, M.D., Green Cove Springs, Fla., to Miss Catherine Dennis of Suffolk, Va., at Richmond, October 3.

Thomas Henry Wilkins, M.D., Portsmouth, Va., to Miss Josephine Rebecca Wicks of Chestertown, Md., November 5.

Ellsworth J. Smith, M.D., Larchmont, N. Y., to Miss Mabel Eleanor Greenwood of St. Catherines, Ont., September 15.

Frederick O. Balcom, M.D., Providence, to Miss Marie Eugenie Dursch, of Newburg, N. Y., at Central Falls, R. I., October 5.

Robert Collyer Bourland, M.D., Rockford, Ill., to Miss Elizabeth Mary Stimson of Appleton, Wis., at Peoria, Ill., October 10.

Deaths

David Joseph Doherty, M.D., died October 27, in the Hospital of St. Bernard de Dieu, Chicago, after a second attack of cerebral hemorrhage, aged 58. Dr. Doherty was born in St. Louis; graduated from the Minnesota Hospital Medical College in 1887, and from the University of Freiburg, Germany, a year later. He was a member of the American Medical Association; Chicago Medical Society, of which he served as necrologist and treasurer for several years; American Oriental Society; American Anthropological Association; and Modern Language Association. He was associate professor of gynecology in the Chicago Polyclinic. During the Spanish-American War, Dr. Doherty became interested in the people and language of the Philippine Islands, and, after having mastered the Tagalog, the most important dialect, he made his first journey to the Islands in 1903 to study the people, the languages and the conditions obtaining there. His report of this trip was so valuable that it was made a part of the record of the United States Senate. His next study was a comparison of the different dialects, and resulted in the preparation of an English-Tagalog grammar and English-Tagalog vocabulary. He made a second trip to the Islands in 1906, and a third voyage a year ago. His principal achievements, aside from his ethnologic and philologic researches, were the foundation of a training school for native nurses, and of a society to provide for a dispensary connected with an organization to procure pure milk for infants. Dr. Doherty had the entire confidence of the Filipinos, associated with both their radical and conservative leaders, and held at the same time most cordial relations with the United States Government officials. He was beloved and respected by all with whom he came in contact, because of his kindheartedness, truthfulness and sincerity. His career may serve as an example of altruism, kindliness, devotion to principle and self-denial for the welfare of others.

John Henry Jackson, M.D. Medical School of Maine, Brunswick, 1868; a member of the American Medical Association and American Academy of Medicine; for thirty-five years a practitioner of Fall River, Mass.; and for twelve years or more professor of theory and practice of medicine in the College of Physicians and Surgeons, Boston; died at his home October 27, aged 70.

Charles Erastus Hickey, M.D. McGill University, Montreal, 1866; M. C. P. and S., Ontario, 1867; formerly a practitioner of Morrisburg, Ont., and for a time Member of Parliament from that constituency; for the last three years superintendent of the Government Institution for the Feeble-Minded, Coburg; died suddenly in that place, October 18, aged 69.

William Hollington, M.D. University of Michigan, Ann Arbor, 1852; surgeon of the Twenty-fifth Illinois Volunteer Infantry during the Civil War; later a practitioner of Cameron, Mo.; and for more than twenty years a resident of San Diego, Cal.; died at his home in that city, March 7, from disease of the stomach, aged 77.

Henry Oliver Stacy, M.D. University of Louisville, 1889; a member of the State Medical Association of Texas; local surgeon at Waxahatchie, Texas, of the F. W. & N. O. and C. T. & N.-W. railways, died at his home October 24, from cerebral hemorrhage, aged 45.

Millard M. Smith, M.D. Cincinnati College of Medicine and Surgery, 1871; a member of the Tennessee State Medical Association and Tri-State Medical Society of Mississippi, Arkansas and Tennessee; died at his home in Whiteville, Tenn., October 4, aged 57.

Jahiel S. Riley, M.D. University of California, 1883; a member of the Medical Society of the State of California; for twenty years local surgeon for the Southern Pacific system at Crockett and Port Costa; died at his home in Port Costa, October 9.

Addison W. Scott, M.D. University of Buffalo, N. Y., 1890; of Syracuse, N. Y.; a member of the American Medical Association; died at the home of his daughter in Germantown, Philadelphia, October 24, from cancer of the stomach and liver, aged 57.

C. L. Hamby, a member of the Medical Society of the State of North Carolina; a resident of Dehart, N. C.; a member of the Wilkes County board of pension examining surgeons; was found dead in his buggy in North Wilkesboro, N. C., October 21.

Charles William Woolridge, M.D. University of Michigan, Ann Arbor, 1877; formerly a practitioner of northern Michigan, but later physician to the Yellow Jacket Mine, near Helena, Mont.; died in that place, October 16, aged 61.

Charles L. Hane, M.D. Starling Medical College, Columbus, 1897; died at his home in Florida, Ohio, October 25, from tetanus following injuries to the face received by being thrown from his buggy eight days before, aged 39.

Edwin S. Hutchins, M.D. Hahnemann Medical College, Chicago, 1900; a member of the Washington State Medical Association; died suddenly in his office at Spokane, October 29, from cerebral hemorrhage, aged 35.

Joseph Henry Soper, M.D. College of Physicians and Surgeons, Chicago, 1883; a member of the Medical Society of the State of California; a veteran of the Civil War; died at his home in Seattle, October 2, aged 64.

Engelbert Voerster, Sr., M.D. Washington University, St. Louis, 1865; a veteran of the Civil War; coroner of St. Louis County from 1870 to 1878; died at his home in St. Louis, from heart disease, October 26, aged 66.

James Madison McLaughlin (license, Ala., 1880); a Confederate veteran; for more than forty years a practitioner of St. Clair County, Ala.; died at his home in Springville, October 23, from paralysis, aged 72.

Alfred Espy McKeehan, M.D. Bellevue Medical College, New York City, 186—; of Minneapolis; for four years a resident of Mexico City; died at his home in Minneapolis, October 2, from cerebral hemorrhage, aged 66.

Frank Burwell Hill, M.D. Atlanta (Ga.) School of Medicine, 1908; of Chipley, Ga.; died at the home of his father in Greenville, Ga., from typhoid fever, October 12, after an illness of twelve weeks, aged 25.

Ezra M. Sellers, M.D. College of Physicians and Surgeons, Baltimore, 1893; died October 22, at his home in St. Marys, W. Va., from injuries received in an automobile accident a few days before, aged 42.

William Stephen, M.D. Trinity Medical College, Toronto, 1894; M.C.P. & S., Ontario, 1894; one of the founders of the Antituberculosis Society; died at his home in Vancouver, B. C., October 20.

Otto W. Fennel, M.D. Medical College of Ohio, Cincinnati, 1884; a member of the Academy of Medicine, Cincinnati; died at his home in Clifton, Cincinnati, October 23, from nephritis, aged 47.

William E. Vary (examination, Ill.); examining surgeon during the Civil War; for twenty-five years a practitioner of De Witt, Iowa; died at his home in Chicago, October 28, aged 82.

Nathan C. Gunder, M.D. Cincinnati College of Medicine and Surgery, 1860; one of the oldest practitioners of Columbus, Ohio; died at his home, October 22, from arteriosclerosis, aged 76.

Jesse K. Dubois, M.D. Washington University, St. Louis, 1875; formerly of Chicago; a member of the American Medical Association; died suddenly October 26, in Boise City, Idaho.

George Warren Reynolds, M.D. Rush Medical College, Chicago, 1873; a member of the Illinois State Medical Society; died at his home in Chicago October 4, from tuberculosis.

Thomas J. Richards, M.D. Jefferson Medical College, Philadelphia, 1868; a veteran of the Civil War; died at his home in Clear Springs, Ind., October 17, from paralysis, aged 86.

Guy Morrison, M.D. St. Louis Medical College, 1879; of Pinckneyville, Ill.; a member of the Illinois State Medical Society; died in El Paso, Texas, March 2, aged 54.

George Wilford Schade, M.D. Missouri Medical College, St. Louis, 1877; formerly an interne in the St. Louis City Hospital; died in St. Louis, February 10, aged 53.

William W. Bickett, M.D. Starling Medical College, Columbus, 1864; of Columbus, Ohio; died at the home of his sister in Danville, Ill., from heart disease, October 22.

Charles Robert Bradfield, M.D. Detroit Medical College, 1871; died at his home in Mount Vernon, Ohio, recently, and was buried at Danville, Ohio, October 16, aged 62.

George W. Hanes, M.D. Rush Medical College, Chicago, 1876; died suddenly in his office in Maynard, Iowa, October 14, from pulmonary hemorrhage, aged 57.

Louis Everett Foster, M.D. Boston University School of Medicine, 1899; died at his home in Northboro, Mass., October 16, from nephritis, aged 33.

A. H. Mathews, M.D. University of Georgia, Augusta, 1869; Statesboro, Ga.; died at Wadley, Ga., October 21, from cerebral hemorrhage, aged 65.

Abiel S. Austin, M.D. Western Reserve University, Cleveland, 1865; of Fowlerville, Mich.; died in a sanatorium at Flint, Mich., October 19.

William Sparrell McCall, M.D. Missouri Medical College, St. Louis, 1857; died at his home in Fulton, Mo., October 15, from cardiac dropsy, aged 74.

Samuel J. Britton, M.D. Western Reserve University, Cleveland, 1875; died suddenly at his home in New Castle, Pa., October 22, aged 58.

William Cameron, a practitioner of Indiana for thirty years; died at his home in Rome City, May 12, from cardiac dilatation, aged 59.

John K. Richey, M.D. American Medical College (Eclectic), St. Louis, 1880; of Mendota, Ill.; died in Peru, Ill., August 14, aged 70.

John B. Shore, M.D. Barnes Medical College, St Louis, 1895; Salem, Ill.; not in practice, died October 5, from typhoid fever, aged 41.

John P. Hopkins, M.D. Bennett Medical College, Chicago, 1893; of Oaklawn, Ill.; died at Orland, Ill., April 12, aged 46

John P. Hutchison (years of practice, Ill., 1887); died at his home in Roodhouse, Ill., April 18, aged 80.

Charles E. Allen, M.D. Rush Medical College, 1862; died at his home in Mason, Ill., June 10, aged 74.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Wise Action in Idaho.

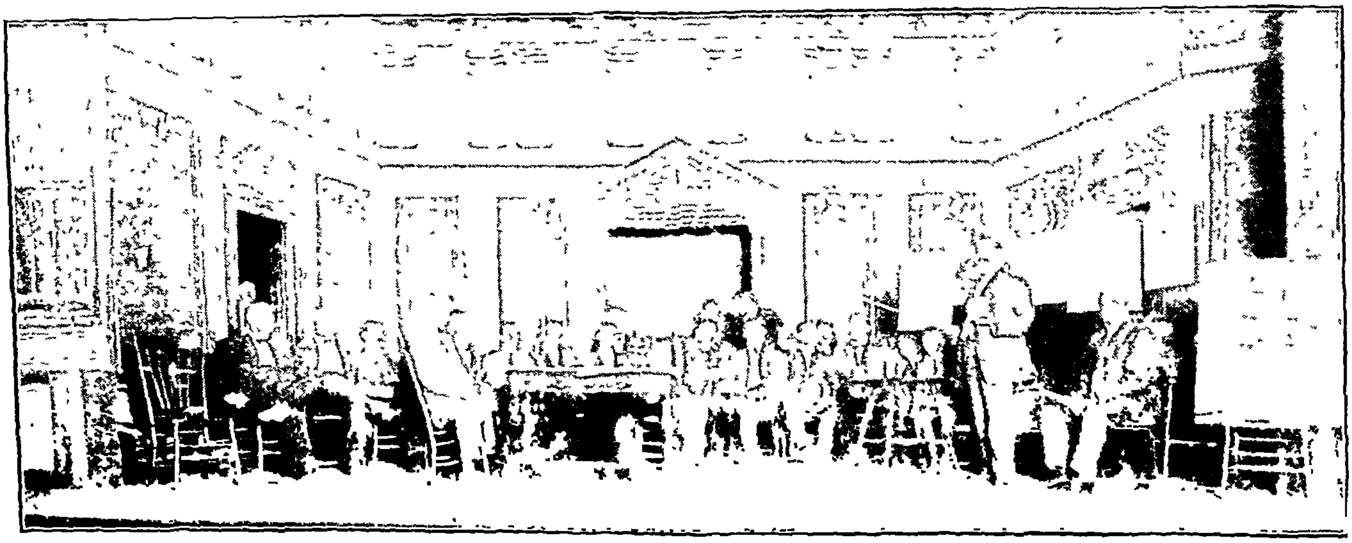
At the recent meeting of the Idaho State Medical Association, the council recommended that no special effort be made at the coming session of the legislature to amend the medical law, but that the association, through its legislative committee and otherwise, cooperate with the State Board of Medical Examiners, in an effort to educate both the medical profession and the people of the state as to the need, in Idaho, of further and better medical legislation, in order that an united and harmonious effort might be made before the legislature of 1911 to secure such legislation as seemed desirable. This recommendation was adopted by the association.

The wisdom of such action is obvious. Many of our efforts to secure desired legislation have failed or have aroused violent and unnecessary opposition because a systematic and general education of the profession and the public did not precede such campaigns. Far too much time and labor has been spent in endeavoring to force state legislatures to enact certain laws either by the use of political methods or by bringing personal influence to bear on the members of the legislature. Laws so enacted have in many cases been utterly useless, as they could not be enforced, owing to opposition on the part of the public. Had both the public and the members of the legislature been shown beforehand the object of such laws and the great importance of their enactment and enforcement to the people of the state, the medical profession would have had not the opposition of the public, but its support.

The action of the Idaho association is most commendable. We venture the assertion that after two years of professional and public education better and more effective laws will be possible in Idaho than could have been obtained through hasty action unaccompanied by proper enlightenment of the people.

Dr. Jones' Work in California.

Dr. Philip Mills Jones, secretary of the Medical Society of the State of California, has been giving lectures through the state, speaking not only to physicians but also to teachers, public officials, professional men and to others interested in public health problems. He has recently spoken at Riverside, Fresno, Eureka, and other points in the state, calling attention to the insanitary conditions that are responsible for an unnecessarily large death rate. The newspapers give Dr. Jones flattering notices. According to Dr. Jones California is willing to spend $40,000 a year in investigating a scale or bug-pest which is destructive of vegetable life, but is not spending a dollar in investigating the cause or the method of prevention of diseases in man. Pure milk, examination of school children, prevention of tuberculosis and typhoid, suppression of quacks and nostrums were also discussed. This work is of the utmost importance and California is most fortunate in having such a man as Dr. Jones to take it up. Newspaper reports show that the public in California as elsewhere is interested in improving sanitary conditions and only needs to be shown the way and properly led to take up an active fight against disease.



The above is a photograph of a demonstration of postgraduate work given by the Clark County Medical Society before the Kentucky State Medical Association at its recent meeting The Clark County Society is one of average size, and the postgraduate work was carried on with the aid of simple appliances, such as blackboards, home-made charts, skulls and a few prepared specimens. The demonstration proved the practicability of the postgraduate study plan, as well as its adaptability to any county society.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month.

Fourth Weekly Meeting.

5. DISEASES CAUSED BY NEMATODES (*Continued*).

D. Ankylostomiasis.

Uncinariasis (hookworm disease: miner's anemia), Incidence, distribution in United States.

Parasite.—(a) Old-world *Ankylostoma duodenale,* (b) new-world *Uncinaria Americana.* Size and shape of male and female. Mouth, teeth and esophagus. Eggs, size, in segmentation. Entrance of embryos into body. Life of worm in intestine.

Symptoms.—Gastrointestinal symptoms, anemia, lack of expression, "Florida complexion," enlarged liver and spleen, potbelly, edema of feet, cardiovascular symptoms. Blood examination. Ova in stools.

E. Filariasis.

Filaria bancrofti, F. diurna F. perstans.—Filaria bancrofti, size, shape, ova, intermediate host. Distribution in the United States. Microscopic diagnosis, presence at night, also found in lymph channels. Symptoms due to blocking of lymph channels: hematochyluria, lymph-scrotum.

F. Dracontiasis: Guinea-worm Disease.

Dracunculus medinensis.—Distribution in United States, shape, size, entrance to body, development, localization.

G. Other Nematodes.

Filariæ.—*F. labialis, F. hominis oris* and *F. bronchialis. Trichocephalus dispar;* whip worm, distribution, description. *Strongyloides intestinalis.*

6. PARASITIC ARACHNIDA AND TICKS.

A. Pentastomes: *Lingatula rhinaria,* and *Porocephalus constrictus.*
B. Demodex Folliculorum.
C. Sarcoptes Scabiei (Itch insect).—Diagnosis and treatment.
D. Leptus Autumnalis (Harvest bug).
E. Ixodiasis (Tick fever).

7. PARASITIC INSECTS.

A. Pediculi. (1) *Pediculus capitis,* (2) *P. corporis,* (3) *P. pubis.*
B. Cimex Lectularius.
C. Pulex Irritans.

8. PARASITIC FLIES.

Myiasis: Gastrointestinal, cutaneous, nasal, etc.

Monthly Meeting.

The Diagnosis and Treatment of Ankylostomiasis.

Microscopic Diagnosis of the Different Malarial Fevers.

The Diseases Due to Parasites Entering the Body Through the Digestive Tract.

Society Proceedings

COMING MEETINGS.

Nevada State Medical Association, Goldfield, Nov. 10-11.
Southern Medical Association, Atlanta, Ga., Nov. 10-12.
Ohio Valley Medical Association, French Lick, Ind., Nov. 11-12

MEDICAL SOCIETY OF VIRGINIA.

Thirty-ninth Annual Meeting, held in Richmond, Oct. 20 23.

The president, Dr. Wm. F. Drewry, Petersburg, in the Chair.

Rev. James W. Morris, D.D., Richmond, offered prayer. Hon. D. C. Richardson, Mayor of Richmond, delivered an address of welcome, which was responded to by L. G. Pedigo, Roanoke.

Over five hundred members were in attendance, and one hundred and eighteen new members were elected. The society has grown to such an extent and the attendance has so increased *that it was determined never to meet, hereafter, in a city of* less than 25,000 population.

Officers Elected.

The following officers were elected: President, Dr. Stuart McGuire, Richmond; vice-presidents, Drs. O. C. Wright, Jarratt, E. T. Brady, Abingdon; Reid White, Lexington; secretary, Dr. Landon B. Edwards, Richmond; treasurer, Dr. R. M. Slaughter, Theological Seminary. Council: First District, Dr. C. P. Jones, Newport News; Second District, Dr. E. E. Field, Norfolk; Third District, Dr. A. L. Gray, Richmond; Fourth District, Dr. S. A. Hinton, Petersburg; Fifth District, Dr. J. M. Shackleford, Martinsville; Sixth District, Dr. G. J. Tompkins, Lynchburg; Seventh District, Dr. W. P. McGuire, Winchester; Eighth District, Dr. T. P. Quick, Falls Church; Ninth District, Dr. J. T. Graham, Wytheville; Tenth District, Dr. M. J. Payne, Staunton; at large, Dr. P. A. Irving, Richmond; Dr. M. M. Pearson, Bristol; Dr. J. R. Gildersleeve, Tazewell; Dr. Kirkland Ruffin, Norfolk; Dr. Stephen Harnsberger, Catlett. Delegates, A. M. A.: Dr. J. S. Horsley, Richmond; Dr. J. L. Kent, Lynchburg; Dr. W. A. Anderson, Farmville.

Roanoke was selected for the next meeting place.

Symposium on Anesthetics.

Dr. H. D. Howe, Hampton: The use of cold for local anesthesia is to be decried. For the infiltration method, 0.1 per cent. cocain in normal salt solution with adrenalin is probably the best local anesthetic, and it should be given intracutaneously, not subcutaneously. For operation on deeper parts, as in hernia, the best method is nerve-blocking. The field of local anesthesia is unlimited for operation on any part near the skin. I believe that in praising the local method of anesthesia, we minimize the pain and shock produced, and exaggerate the same as produced in general anesthesia. In using local anesthesia in an inflamed area there is increased pain after recovery from the anesthetic unless the blocking method is employed. To obviate this give *morphin* or *morphin and scopolamin*. In large operations the local anesthesia may be preceded by a few whiffs of chloroform or ether.

Dr. Stephen Harnsberger, Catlett: The danger of chloroform lies in the method of the anesthetist, the physiology and pathology of the patient and on the atmosphere of the room.

Dr. J. T. Gwathmey, New York: I prepare my solution as follows: Five grains of cocain are placed in a cold watch crystal, and thirty minims of ether are added to dissolve it. After evaporation of the ether, one-half ounce of cold, sterilized water is added to the residue making a 2 per cent. solution. For spinal analgesia, *no fatalities* have followed its use. No one is justified in giving a pulmonary anesthetic if spinal anesthesia will answer the purpose. Where pulmonary anesthetics are contraindicated or the anesthetist is in the way, a new method is to begin with gas and follow with ether; then transfer to the rectum, gauging the correct temperature and pressure. It takes twice as long to kill an animal with warm as with cold *chloroform*. For this reason it is safer to give chloroform in the South than in the North, and this is why it acts better in warm weather. No one anesthetic or sequence is to be recommended exclusively. Morphin is always to be used as a preliminary; if contraindicated, give an enema of whiskey and saline solution.

Dr. Lomax Gwathmey, Norfolk: No operation is to be called painless unless the patient says it is painless

The Minin Light.

Dr. Mark W. Peyser, Richmond: That this light emits blue violet rays is proved by the fluorescence of kerosene oil and quinin solutions when subjected to it. The violet rays are anesthetic; hasten absorption of infiltrations, produce regeneration of the skin with *formation of but little scar tissue*, and are astringent. They are indicated in all conditions of pain, *except some neuralgias, lupus, chronic skin diseases*, including tuberculides and syphilides, ulcers, lacerations and *effusions. They may temporarily* increase pain They are contraindicated in the acute cutaneous eruptions, hysteria, sometimes provoking that state in the case of young anemic girls, and in the aged with arthritis of the extremities.

Physiologic Action of Electric Currents—A Brief for Their Intelligent Uses in Therapeutics.

Dr. W. H. Wallace, Brooklyn: Currents of high voltage and high frequencies work by breaking up the air and evolving nascent oxygen which is taken up by the blood and circulates as oxyhemoglobin, and as suboxidation is at the bottom of the majority of pathologic conditions most amenable to electrical treatment, we understand the action of these currents. Galvanism manifests itself in polar action. Oxygen is set free from the positive pole and forced into the tissues, doing locally what the static current does systematically From the negative pole nitrogen is set free. It is, therefore, *destructive and useful when there is something to be destroyed*

DISCUSSION.

Dr. Mark W. Peyser, Richmond: The evolution of nascent oxygen *by static machines has led to the hope that persons* with tuberculosis could be cured by breathing the atmosphere created. *As most of these suffer from anemia, the hope proves* false, there being an insufficiency of the necessary hemoglobin to enter into a combination that might prove curative Probably, the negative galvanic pole, in its role as a producer of hyperemia, acts like the mechanical methods of *Bier*

Value of X-Rays in Chest Diagnosis.

Dr. A. L. Gray, Richmond: The *x* rays are valuable in the diagnosis of aneurysm, pleuritic effusions, *pyothorax*, hydrothorax and empyema, the pus in this affection producing a denser shadow than that of hydrothorax. Pneumothorax is characterized by the absence of the normal shadow An unqualified diagnosis may be made in many cases of tuberculosis before the tubercle bacillus has appeared in the sputum, and before physical signs are demonstrable. The progress of the disease may be studied by successive radiographs Both back and front exposures should be made in chest cases.

DISCUSSION.

Dr. J. G. Nelson, Richmond: Physical examination has some points superior to those of the *x* rays, and vice versa Without other signs, the plate conveys no information There are but few conditions in the thorax that will not be apparent *to the physician who cultivates his senses.* In heart lesions the *x* rays are comparatively useless Scattered tubercles can be diagnosed better by the rays, *but these* are usually accompanied by other signs.

Dr. Douglas Vander Hoof, Richmond: The *x-rays* are of value only in doubtful chest cases, and also to confirm the physical findings. The chief condition in which we would like help from the rays is in the case of small encapsulated foci of pus.

Dr. A. L. Gray, Richmond: I do not intend to advocate that the *x*-rays supplant physical examination, but to discover conditions which are difficult or impossible for the physical diagnostician to ascertain It is my desire that the two work hand in hand, *one aiding* the other.

Morbid Psychology.

Dr. Frederick Peterson, New York: Every physician is a psychotherapist in direct ratio to his quality. "Insanity is a long dream, and a dream, brief insanity." In a way, we may look on insanity, in itself a pathologic condition, a summation of periodically recurring dreams, as a kind of reduction of consciousness such as exists in a dream state. Sometimes we meet with nocturnal insanity in patients recovering from insanity, and who are well by day. The question of heredity in mental and nervous diseases is fortunately growing in public interest.

We must not lose sight of the fact that with every birth normal heredity presses down upon the newcomer with the force of a hundred million years to make and keep him an average, normal creature. Insanity is preventable by educating the public to the dangers of alcohol and syphilis, and by proper training of children. The cardinal principles of treatment are isolation and psychotherapy. Pending commitment, patients should not be detained in jails, but in psychopathic hospitals for at least ten days for observation, and should fall altogether under the rules of quarantine.

The Medical Side of the Alcoholic Problem.

Dr. T. D. Crothers, Hartford, Conn.: The influence of alcohol in disease is of greater magnitude than syphilis, tuberculosis or any other germ disease known. Alcoholism is contagious, infectious and curable in the same sense as other disease, and it is always a medical problem and not a moral one. The present agitation by laymen, reformers and quacks is a startling reflection upon the stupidity of physicians, who, of all others, should teach the public and point out the means of cure and prevention. Medical men must make this a special study and bring it into the realm of actual practice.

DISCUSSION.

Dr. J. N. Upshur, Richmond: Inebriates should be examined for commission to an asylum as are the insane; but legislators are too timid to pass the necessary laws.

Some Insect-Borne Diseases.

Dr. George L. Collins, Fortress Monroe: That flies, polluted by contact with infected excrement, infect food and spread cholera and typhoid is commonly accepted. That such flies so spread the septicemic form of plague is also believed, although plague is more commonly contracted as the bubonic form from the bite of a flea of an infected rat. Relapsing fever, tuberculosis, tetanus, conjunctival disease and certain exanthemata are also believed to be spread sometimes by insects. Malaria, filiriasis, sleeping sickness, and possibly dengue, may be regarded as diseases proved to be caused by animal organisms and transmitted through the agency of insects.

Cleanliness, mosquito-netting and insecticides are to be used as preventives of diseases spread by insects. The best general insecticide is sulphur dioxid.

Is Mercury a Specific in Infectious and Contagious Diseases as Well as in Syphilis?

Dr. H. E. Jones, Roanoke: Bichlorid of mercury is not only a specific for syphilis, but for every other disease caused by a living organism. My experience is that no patient under its treatment has ever contracted any other infection; and in no case of infection in which I have used it has there been a death, and I have seen but one complication. It has been discovered that in syphilis complicated with tuberculosis the use of mercury has been of much benefit for the latter as well as the former. Hypodermic exhibition is the best method of administration.

DISCUSSION.

Dr. L. G. Pedigo, Roanoke: As to the action of heroic doses of calomel, I believe there is an element of truth in the explanation that it is antiseptic. But this does not wholly explain the effect in dysentery, membranous croup, etc. I have used for several years successfully the method when instituted within 24 hours after the initial chill, in croupous pneumonia. Lentz used it as far back as 1870.

Dr. H. E. Jones, Roanoke: By using mercury in typhoid fever, temperature is normal by the morning of the seventh day, rising to 100 F. in the evening. By the eleventh day it is normal both morning and evening. Two patients with pneumonia of nine and twelve weeks standing, respectively, are now much improved.

The Existing Relations Between the General Practitioner and the Specialist.

Dr. J. W. Bovee, Washington: Two special evils result from the attempts of general physicians to be specialists: 1. Delay until malignant disease is converted from curable to incurable. 2. Attempt to be surgeons. Surgical operations must be done by those who operate continually, and not infrequently. Evils that exist among specialists are: 1. Reference of patients to physicians or specialists other than those who referred the case originally. 2. Attempt of specialists to do general work.

(To be continued.)

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington, D. C., Sept. 28 to Oct. 3, 1908.

(Continued from page 1541.)

SECTION III.—SURGERY AND ORTHOPEDICS.

Treatment of Hip-Joint Disease.

This paper by **Prof. Calot**, of Berck-sur-Mer, France, was read by the Secretary of the Section, Dr. John T. Bottomley, Boston.

To prevent erosion and destruction of the bone surfaces a mixture is injected early, consisting of creosote 3 parts, iodoform 7 parts, ether 25 parts and olive oil 50 parts. A horizontal line should be drawn passing by the spines of the pubes, and the femoral artery should be located. Then a long needle, of the lumbar puncture type, should be inserted at a point 2 centimeters outside the artery and 3 centimeters below the horizontal line. At 4 or 5 centimeters deep the point of the needle comes in contact with the anterior surface of the neck of the femur. The thigh should be put in slight flexion, abduction and outward rotation. The injections should be repeated every three or five days, should be nine or ten in number, and cover a period of some two months. Four to 10 centimeters of the liquid should be injected, according to age. All this time the patient must be in bed, either with extension or in a bivalve plaster cast.

Treatment of Tuberculous Hip Disease by Weight-Bearing and Fixation by the Lorenz Short Hip Spica.

Dr. H. Augustus Wilson, Philadelphia: Weight-bearing is conducive to the benefits afforded by outdoor life. Constitutional activity prevents circulatory stasis. Confinement and inactivity favor atrophy from disuse. Weight-bearing without fixation, under the most favorable circumstances, may result in recovery, but with ankylosis in deformed postures. Weight-bearing with the Lorenz short hip spica facilitates the employment of outdoor life and shortens the time of treatment. The results show full function when it is used in suitable cases. Rapid recovery follows in some cases from the formation of abscess, and in others there is slow but permanent recovery. Beck's bismuth injection may be used in sinus tracts. There may be sound ankylosis in patients previously confined to bed or when there is atrophy from disuse produced by using crutches. Muscular development of the atrophied leg often demands frequent changes of casts, thereby indicating the benefits obtained. Furthermore, weight-bearing with fixation aids in securing the beneficial influences of Bier's hyperemia. Pathologic dislocations may occur with improper position of fixation. The most favorable posture is that of 20 degrees of flexion, 20 degrees of abduction and 5 degrees of external rotation. The method does not appear to be applicable to debilitated patients without the temporary aid of crutches.

Vaccine Therapy in Joint Tuberculosis.

Dr. Edward H. Ochsner, Chicago: In the treatment of joint tuberculosis, as in all other forms of tuberculosis, too much attention can not be paid to hygienic conditions and suitable food. In addition, we must strive to prevent secondary infection, we must secure proper immobilization and I believe that we can considerably hasten recovery and favorably influence the final result by vaccine therapy, as controlled by the reading of the opsonic index. If patients with joint tuberculosis come to the surgeon early enough, if they are placed under proper hygienic conditions, if suitable measures are adopted for the prevention of secondary infection, if the joints are perfectly immobilized for a sufficient length of time, and if vaccine therapy is instituted under the control of the opsonic index, I believe that the great majority of patients will secure perfect or nearly perfect functional and anatomic results.

Discussion on Joint Tuberculosis.

Dr. De Forest Willard, Philadelphia: The results obtained by Dr. Wilson, if carefully analyzed, are about the same as from other methods of treatment. If we can get these patients early, there is no question but that all of us can secure good results. Fresh air and outdoor life are important. The ambulatory treatment should not be used in the acute stage. Vaccine therapy and the Bier treatment are good, but no one thing will cure tuberculosis. The same applies to injections. We can do more in conquering tuberculosis by building up the resistance of the individual than by attempting to destroy tubercle bacilli.

Dr. Russell Bellamy, Wilmington, N. C.: Climate is the most important factor in dealing with these cases. Seven-eighths of all the patients in the hospital for deformities in New York are from the slums of New York. I have seen splendid results from the use of the plaster spica.

Dr. Emil G. Beck, Chicago: I would hesitate to use a needle where it is possible to inject material into a vein, because death would follow in two minutes. I have proved this in experiments on guinea-pigs. I advocate the injection of the bismuth paste after opening the abscesses.

Dr. Eugene Caravia, New York: I advocate the use of Cuguillere's serum, which consists of allylum sulphid 1 gram, tincture of myrrh 1 gram, and Hyem's glycerinated serum 100 grams. It is a yellow liquid, with a strong odor of garlic, and is non-toxic. One hypodermic injection of from 2 to 5 c.c. is given every week. I have used this serum in two cases of adenitis of the neck, one small subcutaneous tumor of the breast, one white swelling of the knee, and one periostitis of the tibia. No other treatment was used. From three to twelve injections were needed to effect a cure, which was permanent since months and years after the cessation of the treatment there has been no relapse and no tuberculous manifestations in any part of the body. Temperature became normal, appetite returned or increased, pain stopped, swellings disappeared, suppuration dried up, fungosities were resorbed, and the movements of the articulations involved were preserved.

Dr. A. T. Cabot, Boston: Patients suffering from pulmonary tuberculosis are required to exercise care in the disposal of their sputum, but practically no attention is paid in hospitals or elsewhere to the disposal of surgical dressings from tuberculous cases. Such dressing should be treated immediately with boiling water or some suitable antiseptic, or burned.

Dr. Tienstall Taylor, Baltimore: Weight-bearing should not be used in acute cases and should be confined to hospital and sanitorium treatment, as it is sure to be meddled with if tried at home. The bivalve spica is best, because it will permit massage. Climatic treatment is important, and vaccine therapy is also useful. Braces and the prolonged use of traction have been much overdone. On the other hand, I do not agree with Lorenz that early ankylosis in these cases is desirable.

Dr. H. A. Wilson: The museums are full of specimens showing joint destruction from tuberculosis. A movable and functionating joint is always preferable when such function is not apt to be destructive to the surrounding tissues and to the health of the patient. But when there is great destruction the question comes up as to whether it is better to have mobility or ankylosis. I find that I am unable to answer this question.

Dr. E. H. Ochsner: Vaccine therapy is not a cure at all; it is only a very valuable adjunct to the ordinary modes of treatment. By the proper application of vaccine therapy I have been able to reduce the quantity of connective tissue in the healing of tuberculosis. I am sure that vaccine treatment will reduce the mortality somewhat. Within the last two years I have had several patients with joint tuberculosis who came with great sinus formations and secondary infection, and who would have died had they come five years earlier, or before the use of the vaccines. I firmly believe that morbidity will also be reduced by vaccine therapy in conjunction with other measures.

SECTION IV.—TUBERCULOSIS IN CHILDREN—ETIOLOGY, PREVENTION AND CURE.

Value and Reliability of the Ocular Reaction to Tuberculin in Differential Diagnosis.

Dr. E. Mather Sill, New York: Any new method of treatment or diagnosis meets with more or less enthusiasm and skepticism until it has been thoroughly demonstrated by extensive use to be a reliable, practicable and safe method. The ocular reaction to tuberculin has now been used in a sufficiently great number of cases to insure its safety and prove its reliability and value in the diagnosis of tuberculosis. Many cases of tuberculosis can be detected by means of this simple test which without it would have gone undiagnosed. When properly used, the test is without danger and can be used by the general practitioner to great advantage, and in it we have a means of differentiating tuberculous conditions from other diseases. It is now well known that tuberculosis in infancy and childhood is largely a disease of the lymph nodes and in this respect differs from tuberculosis of adult life and in many respects is more difficult of diagnosis than that of adult life. The ocular reaction is present in both clinically active and clinically inactive tuberculosis, but is not present in cases in which there is no tuberculosis. It is of special value in lesions outside the lungs and when it is difficult to get the sputum and in cases in which the clinical symptoms are obscure. My experience corresponds closely with that of Comby and Calmette in regard to the reaction. In all my tests I have instilled one drop of a 1 per cent. solution of tuberculin into one eye. I have made the test on 200 infants and young children, of whom all the clinically tuberculous gave a positive reaction; 90 per cent. of the very suspicious cases gave a positive reaction, 18 per cent. of the suspicious cases gave a positive reaction, and none of the apparently non-tuberculous children with a variety of other ailments, slight or otherwise, gave a reaction. No bad results have been obtained from the Calmette test.

Frequency of Tuberculosis in Childhood.

Dr. C. von Pirquet, Vienna: As the result of 1,400 examinations with the cutaneous tuberculin test at the Escherich clinic, a table has been prepared which shows the increase of infection with tuberculosis from year to year. These results have been compared with the statistics made with the postmortems of children. Of the different kinds of reactions which appear in early and later childhood one is significant and should be thoroughly understood. International statistics might well be collated in the following manner: That children of all ages, for instance, kindergarten and school children, be tried with the cutaneous test on the first day; on the following day all should be inspected. Those who show a reaction should be noted as belonging to the class of "early reaction," which practically means having had the infection in the latter years. A week later those children who showed no reaction on the first trial should be again tried. A great percentage of older children will now react, and they belong to the class of "secondary reaction," which generally means having had the infection in previous years. Those children who have not reacted on either of the above occasions belong to the third class, which can be considered as those practically free of tuberculosis

In order to have a certainty with regard to the third class one could inject the non reacting children on the following day with 1 mg of tuberculin according to the proposal of F. Hamburger, and inspect those children the next day as to the local subcutaneous reaction. This trial, of course, would only be possible in hospitals whereas in schools one must be contented with the cutaneous trials which can be made without any inconvenience to the children. In this way one could take note in the different towns of the percentage of infection and the ages at which such infections occur, and consequently could form conclusions as to hygiene.

Clinical Observations on the v. Pirquet Reaction in Children

Dr. Henry Heiman, New York: Fifty seven children were vaccinated according to the v. Pirquet method at the Mt. Sinai Hospital in the children's service of Dr. Koplik and myself. Twenty showed a positive reaction and 37 a negative one. The 20 children who gave a positive reaction suffered from the following morbid conditions: Tuberculous adenitis, 3 cases, tuberculous meningitis, 2, tuberculous peritonitis, 2, solitary tubercle of the brain, 1, pulmonary tuberculosis (probable), 2, pleurisy with effusion, 4, bronchopneumonia, 1, glioma of retina and multiple dactylitis, 1, amaurotic family idiocy, 1; rickets, 1, intestinal intoxication, 1, and sarcoma of the kidney, 1.

The 337 negative cases included the following diseases: Amblyopia congenital, 1, chronic arthritis, 1, syphilitic arthritis, 2, intestinal autointoxication, 1, chronic bronchitis, 3, bronchopneumonia, 3, enterocolitis, 2, empyema, 3, pulmonary gangrene, 1, amaurotic family idiocy, 1, congenital idiocy, 1, marasmus, 1, tuberculous meningitis, 8, acute nephritis, 1, pleurisy with effusion, 1, dry pleurisy, 1, lobar pneumonia, 1, pseudoleukemia (v. Jaksch), 1, pyelitis, 1, syphilis, 1, cerebellar tumor, 1, and typhoid, 1. Eighty per cent of the cases of tuberculous meningitis (8 out of 10) gave a negative reaction. This is probably due to the fact that the vaccination was performed during the terminal stage of the disease, when the absence of antibodies or bacteriolysins prevented the occurrence of a positive reaction.

An Aid to the Diagnosis of Tuberculosis in Infancy and Childhood by the Cutaneous Inoculation of Diluted Tuberculin (Pirquet Method).

Dr. Louis Fischer, New York: The diagnosis of infantile tuberculosis is frequently obscure, and when associated with the acute infectious diseases or occurring as a sequel to them the diagnosis is difficult to make. Syphilitic manifestations frequently present clinical pictures greatly resembling tuberculosis. The cutaneous or von Pirquet method has proved an aid in strengthening the suspicion of latent tuberculosis. The ocular reaction of Calmette has been attended by severe ocular complications, both in this country and abroad. No such danger has been recorded with the von Pirquet method. After scarifying three small areas of skin, two of which are inoculated and a third left as a control, there should be found in twenty four hours, or at the latest forty eight hours, an elevated papule, about 10 millimeters in width, which may be called a positive reaction. There is no rise of temperature or chill, and no general systemic disturbance. No unpleasant after effects have been recorded. If no reaction takes place after the first inoculation, a second inoculation may be given several weeks later without any danger or ill effects. The reaction, if positive, will be visible in very young infants in from five to seven days. In older children it will sometimes remain several weeks. The reaction was positive in tuberculous meningitis, tuberculous coxitis as well as in pulmonary tuberculosis and in a tuberculous osteomyelitis.

Overcoming the Predisposition to Tuberculosis and the Danger from Infection During Childhood

Dr. S. Adolphus Knopf, New York: Direct bacillary transmission from a tuberculous parent is possible but not frequent. A child inherits a predisposition which as a rule is most marked when the mother is the tuberculous parent and when the progenitor is in the latter stages of the disease. To overcome a tuberculous predisposition, which may be interpreted as a physiologic poverty, the treatment should begin before the birth of the child. The best hygienic environment, freedom from care and worry, the best of food, frequent deep breathing, or, better still, systematic respiratory exercises, are the best means for the tuberculous mother to help to overcome a tuberculous predisposition of her offspring. Among the poor, private or municipal philanthropy should aid such families so that the mother may not be obliged to work too long before or too soon after the birth of the child. The newly born child should likewise be assured the best hygienic environment and the best and purest cow's milk for its food if the mother is the tuberculous parent. As the child grows up it should be watched carefully. Adenoids and other obstructions to free breathing should be removed, judicious hydrotherapy should be inaugurated, so that the child becomes resistant to so called colds, and as soon as the intelligence of the child permits it should be taught respiratory exercises and induced to practice them frequently and always in good pure air.

A child predisposed to tuberculosis should not go to school before its eighth year. Its mental training should not be pushed to the extent of becoming a hindrance to its physical development. Outdoor singing and outdoor recitation, weather permitting, should be encouraged in all schools. Postnatal infection should be prevented by teaching the mother the usual precautions in relation to kissing, coughing (drop infection), use of different utensils and extreme care with the expectoration. When the social condition of the mother will not assure the freedom from danger of postnatal infection or not permit the installation of the proper treatment of the predisposition, the child should be placed either in a children's sanatorium or in a good country home.

Diagnostic Value of Lumbar Puncture in Acute Tuberculous Meningitis of Children

Dr. Frederic E. Sondern, New York: The bacteriologic examination of the cerebrospinal fluid renders the best service in diagnosis, though the cytology is also important, particularly in the absence of organisms. The practical information obtained from the pressure, appearance, density, amount of albumin and other chemical data, the amount of sediment, the tendency to coagulation, the toxicity, the freezing point and the transmission of some administered drugs to the cerebrospinal fluid, is often of decided value, but always secondary to the above. The examination should be as complete as circumstances and the available amount of the specimen permit. The chief diagnostic and differential features are: In tuberculous meningitis the pressure of the cerebrospinal fluid is increased, the appearance usually transparent and colorless, occasionally slightly opalescent, the density is not much increased, the albumin between ¾ and 2 per mille by weight, coagulum slight and frail, sediment slight, cytology, average number of lymphocytes 86 per cent., bacteriology, tubercle bacilli present in 88 per cent. of cases. If tubercle bacilli are present, a relative polynuclear increase may indicate mixed infection. In absence of bacilli, if lymphocytes predominate, search should be repeated, and a possible meningism of typhoid, pneumonia, etc., kept in mind. Purulent specimens usually offer no difficulty in diagnosis. The relative polynuclear cell increases and almost invariable presence of intracellular diplococci distinguishes cases of cerebrospinal meningitis.

Hygienic and Climatic Prophylaxis of Tuberculosis in Childhood

Dr. Frederick L. Wachenheim, New York: Good general nutrition is one of the best safeguards against tuberculosis in children, to secure this we often have to combat disturbances of digestion or neurotic anorexia. To stimulate the appetite and digestion nothing is so useful as exercise, preferably out of doors. Over exertion is harmful and may even predispose to tuberculosis. It is best to regard exercise merely as a method of hardening which is the sovereign prophylactic as well as treatment of tuberculosis. Cold fresh air ranks first among our hardening measures, cold bathing second, both are to be employed guardedly, especially in infancy, with gradually increasing strenuousness as the child grows older, excess in this direction being also harmful. When the child's native climate precludes sufficient outdoor life a more genial region should be sought, taking care not to cause enervation through too high temperatures. With regard to cold bathing, it should not be attempted in infancy; in later childhood sea bathing is of especial tonic value. Hardening by means of well-regulated clothing is still in the empirical stage, individual idiosyncrasy is still the main guide, but absurdities like seminudity are to be shunned; we decide sufficiency in clothing in children by noting the temperature of their extremities, overheating being at least as injurious as chilling.

Prognosis of Pulmonary Tuberculosis in Children Under Fifteen.

Dr. Frank A. Craig, Philadelphia, based his paper on the study of 193 cases of pulmonary tuberculosis occurring in children, the ages ranging from sixteen months to fourteen years. Tables are given comparing the results to the patient's condition when first coming under observation. The special topics considered were: Sex, age, race, color, duration of disease, amount of pulmonary involvement, stage of disease, source of infection, pulse and respiratory rate, temperature, sputum and urine examination, complications, method of treatment (sanatorium, dispensary, or city hospital), and comparison with the results obtained in adults.

The amount of involvement gave the most accurate information from the standpoint of prognosis. Among the patients with one or two lobes involved with cavity formation, or with more than two lobes involved, with or without cavity formation, in no instance was the disease "arrested" or "much improved." Next in value was the pulse rate. No patient with a pulse of 80 or less became progressively worse or died, and no patient with a pulse rate above 120 had "disease arrested" or "much improved." The respiratory rate also gave valuable information. None of the other factors gave very positive indications. The older children gave somewhat better results than the younger, and the patients treated in the sanatorium did a little better than those treated in the dispensary and hospital. The results in children were better than in adults when the disease was not extensive, but not so well when the disease was advanced.

Hypertrophy of the Lymphoid Tissue: Its Relation to Tuberculosis.

Prof. P. Nobécourt and Dr. Leon Tixier, Paris, investigated 22 children, from 31 months to 14 years, with adenoid vegetations and enlarged tonsils; none had open pulmonary tuberculosis.

Fifteen of the children presented no clinical signs of tuberculosis; 5 had doubtful signs (peripheral polyadenopathy, mediastinal adenopathy, apical bronchitis): only 3 presented undoubted symptoms of tuberculosis; 2 had beginning apical tuberculosis, and 1 tuberculosis of the cervical lymph glands. Subcutaneous injections of tuberculin—0.1 milligram—were given to 18 children; reaction was positive in 7. Only 2 of the children were considered clinically tuberculous; in the third tuberculous child no tuberculin tests were made; 2 children were suspected of bacillose (cervical and mediastinal adenopathy). The cuti-reaction was performed in 18 children; it was positive in 12, especially in 2 manifestly tuberculous, and in 2 suspected individuals who had reacted to the subcutaneous injection of tuberculin. The conjunctival test was made in 13; it was positive in only 4, especially in 2 tuberculous children.

To sum up, 5 children out of 22 may be regarded as entirely free from tuberculosis; all, however, enjoyed excellent general health. The tonsils were inoculated into guinea-pigs. Some of the animals died too early to give any information in regard to tuberculosis; 7 which were dissected after the usual interval showed no tuberculous lesions. In this number there were 2 animals which had been inoculated with lymphoid tissue obtained from 2 tuberculous children. All but 8 of the inoculations of adenoid vegetations are left out of consideration. In only one case a guinea-pig developed tuberculosis, although the animal had been inoculated with vegetations obtained from a child who was not clinically tuberculous, and in whom both the subcutaneous test and the cuti-reaction were negative, although he reacted positively to the conjunctival test. The tonsils were studied histologically in 16 cases, and the adenoid vegetations in 15. Examination of the sections did not reveal a single tuberculous focus. Additional sections were studied from the adenoid vegetations which had caused tuberculosis in the guinea-pig, but the search for lesions was fruitless. Preparations stained after Ziehl's method failed to show a single tubercle bacillus. The infection was no doubt produced by a few bacilli that happened to be on a small part of the nasopharyngeal mucous membrane and did not have time to produce specific lesions.

Larval tuberculosis of the palatine and pharyngeal tonsils is exceptional. In children who are evidently tuberculous, but have no open pulmonary lesions, neither animal inoculation nor histologic examination of the tissues revealed the presence of tubercle bacilli or of bacillary lesions. In the only case in which the inoculation of adenoid vegetations produced tuberculosis in the guinea-pig, the child was not tuberculous and did not react to the conjunctival test, and the tissues showed no tuberculous alteration. Hence there is nothing to prove in the cases studied that the lymphoid tissue of the pharynx is the port of entry of the bacillary infection.

The Seashore and Fresh-Air Treatment at Sea Breeze Hospital of Tuberculous Disease of the Bones, Joints and Glands in Children.

Dr. John W. Brannan, New York: During four years 136 patients have been under treatment, of whom 68, exactly one-half, had spinal or hip disease, which in 81 per cent. was in an advanced stage at time of admission to the hospital. Forty-two of these 68 have been discharged, and of these 36 per cent. were cured and 19 per cent. improved, making 55 per cent. who were either well or progressing to recovery when they left the hospital. Among the discharged cases were 22 in which the knee or other joints were affected. Although 80 per cent. were in an advanced stage, 73 per cent. were cured and 13 per cent. were improved. To secure the best results in bone and glandular tuberculosis the patient must spend the entire time in open air, and the seashore offers especial advantages for outdoor life for children. Subscriptions to the amount of $250,000 have been received for a permanent hospital, and New York City has promised a site for the hospital, and to maintain it when it is completed. There has been a temporary delay in securing a site because of the present financial stringency.

A Contribution from Orthopedic Surgery to the Study of Tuberculosis.

Dr. Adoniram B. Judson, New York: Patients affected with tuberculosis will recover, I believe, and new cases will not occur if the environment, local and general, is favorable. That hip disease recovers without treatment except correction of environment has been learned from clinical experience and from literature, and if this occurs in hip disease there are reasons in the comparative anatomy and physiology of the lung and the hip for the belief that the same and even better results will follow in consumption. It is not possible at present to secure for all, the sick and the well, the desired general environment which includes abundant food, innocuous occupation and sanitary housing, but observations in hip disease indicate that local rest should be secured in consumption by superficial breathing, the cessation of coughing and the avoidance of exercises which quicken the respiration.

The Possibility of Avoiding Scar Formation in Softened Tuberculosis of the Cervical Glands.

Dr. Willy Meyer, New York: By following the rule of making the incisions in the course of the skinfolds of the neck when operating for softened cervical tuberculous adenitis, even long cuts may show very little later on. Still there will be a scar correspnding to the length of the incision. Bier's hyperemic treatment enables us to reduce such scars to a minimum if the method is properly carried out with the help of the neck-band, as well as suction glasses, especially if combined with open-air treatment and, of course, if the other means at our disposal in the treatment of surgical tuberculosis are observed. The lung suction mask, originally designed for the physical treatment of tuberculous pulmonary disease, also greatly improves the general condition of the blood, a point of great importance in dealing with these usually anemic patients.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifth-eighth Annual Session, held at Cambridge Springs, Sept. 14-17, 1908.

(Concluded from page 1543.)

Acute Intestinal Obstruction.

Dr. Luther B. Kline, Catawissa: The abnormal states or conditions acting in a causative relation to acute intestinal obstruction are so various and distinct, and the symptoms attending different causes so common, that, in order to appreciate their significance, it is necessary to consider them separately. The etiology bears an important relation to the symptoms, diagnosis and treatment of this affection, and includes strangulation, intussusception, volvulus, foreign bodies and hernia. The symptoms are abdominal pain of an acute character, nausea, vomiting, tympany and increase of temperature. In consequence of the sudden onset and rapid development of the disease, diagnosis is most important. Having many of the same symptoms as appendicitis, careful investigation may be necessary to discriminate between them. The treatment is closely associated with the diagnosis; the latter being definitely determined in favor of acute obstruction, little time should be consumed before resorting to surgical interference.

Intestinal Obstruction in Connection with Tuberculosis or Tuberculous Peritonitis.

Dr. Henry M. Neale, Upper Lehigh: Obstruction of the bowels, due to tuberculous deposit, is a much more common condition than is usually supposed. Operation is of value if proper discrimination is made. Exploratory incision is advisable in all doubtful cases in which it is possible, and at the same time feasible.

DISCUSSION.

Dr. C. H. Miner, Wilkes-Barre: There are many structures from which tuberculosis within the abdomen might arise, hence differentiation is difficult. Obstruction of the intestine in tuberculosis may be due to a healed lesion or to thickening of the intestinal wall. Dilatation of the intestine above the obstruction may be enormous, while below it the lumen may be much reduced. While an exploratory incision is always justifiable, it is true that sometimes absorption takes place with relief of symptoms.

Dr. G. W. Guthrie, Wilkes-Barre: The stomach should be washed out both before and after operation. In all cases of intestinal obstruction the treatment is to operate early. When the bowels do not act the abdomen should be opened and the cause ascertained.

Early Signs of Extrauterine Pregnancy.

Dr. Raleigh R. Huggins, Pittsburg: The time has arrived when the diagnosis should be made before rupture in at least 90 per cent. of cases. Unfortunately, physicians are not always called until serious symptoms have occurred. One of the most important factors in its early recognition is a careful study of the patient's history, not for a month, but for a number of years previous to the development of symptoms of a suspicious character. History suggestive of previous tubal infection will be found in the majority of cases.

Extrauterine Pregnancy.

Dr. Charles Stillwagen, Pittsburg, reported a case of secondary abdominal pregnancy operated on at the end of the fourth month. He advocates deferring operation until the acute symptoms have subsided.

DISCUSSION.

Dr. G. E. Shoemaker, Philadelphia: The most significant thing to me is the brown vaginal discharge. The question of early or late operation is an open one, but I incline to operation as soon as diagnosis has been made and suitable preparation can be carried out.

Dr. J. G. Clark, Philadelphia: When the patient is in shock no operation should be done until reaction has occurred. To operate when there is air hunger and pulselessness is to precipitate death. Operation without proper preparation can only do harm. When a patient is slowly rallying from shock is a bad time to operate. It is best to consider all features of the case and take a middle ground in reference to operation —neither too radical nor too conservative.

Dr. E. P. Davis, Philadelphia: If ectopic gestation is diagnosed, our plain duty is to remove it. In case of tubal abortion operation should also be done. In case of rupture, if conditions are favorable for operation, it should be carried out. If conditions are unfavorable, delay should be exercised.

Dr. C. Stillwagen: In 28 patients operated on there has not been recurrent hemorrhage. The hemorrhage is greater in tubal abortion than in rupture.

SYMPOSIUM ON POLIOMYELITIS.

Symptomatology of Acute Anterior Poliomyelitis.

Dr. James H. McKee, Philadelphia: The onus of the future clinical study of this disease must rest largely on the family physician. While anterior poliomyelitis occasionally appears after one of the infectious diseases of childhood, it seldom has anything behind it. When a young child is suddenly seized in the warm months of the year with moderate fever, vomiting, constipation or diarrhea, pain in the back and legs, some stiffness of the spine, sweating and possibly some disturbances of the consciousness, the attending physician should give anterior poliomyelitis a prominent place in the list of diagnostic possibilities. Given such a history and observing at a later date a flaccid paresis (of parts mentioned), accompanied by muscular and bone atrophies, absence of reflexes, failure of response to faradic currents, coldness and cyanosis of the surface, etc., there is little difficulty in diagnosticating a spinal lesion of this nature. There remain some things to be learned concerning the early symptomatology of anterior poliomyelitis.

Treatment of Poliomyelitis.

Dr. Theodore Diller, Pittsburg: Rest is by far the most important element in the treatment of the acute stage of the disease. The affected limbs should be placed on pillows in the easiest positions, and when there is much tenderness it is well to wrap them with cotton. Sand bags may be placed around the affected members to keep them in position and to retard deformity. From the beginning the physician should be on the outlook for deformity due to contraction of unopposed muscles. This should be combated by the use of padded splints, and occasionally elastic bands will be found useful. A purgative, such as calomel or castor oil, is of value at the outset, and later an alkaline diuretic containing a moderate dose of bromid. Because of the pain and distress produced by electricity, I seldom use it, believing that in the chronic the same amount of good may be derived from massage, gymnastics and passive movements. Orthopedic treatment is of the utmost importance. Definite efforts should be made by philanthropic individuals and societies to secure for poor children the benefits of modern orthopedic treatment.

Dr. Frank F. Wrey, New Castle, contributed a paper on the epidemiology of acute anterior poliomyelitis.

Discussion on Poliomyelitis.

Dr. Charles W. Burr, Philadelphia: The higher death rate in epidemics of poliomyelitis than in sporadic cases, I believe, is explained by the fact, not that the death rate is smaller in the latter cases, but that the men who make hospital figures see only the chronic cases. If the word poliomyelitis is confined to its true meaning, disease of the anterior horns, the cases showing inflammation throughout the spinal cord, inflammation of the meninges of the cord and of the brain, are not poliomyelitis at all. This leads to the theory that poliomyelitis is due to some sort of a poison, arising from within or without. Whether it be a bacterial poison or an organized poison from some other source, it is to-day impossible to state.

Dr. Charles K. Mills, Philadelphia: I have seen more than the usual number of cases of poliomyelitis during the last few years. The cases called poliomyelitis, occurring after the ordinary febrile diseases, are not of the same character, though some of them closely simulate poliomyelitis. I believe that the disease may be poliomyelitis and that yet there may be associated with a true poliomyelitis symptoms indicative of the occurrence of a root neuritis or a form of truncal neuritis. Cerebral symptoms do occur in these cases and are due to an associated polioencephalitis. If anything should be emphasized in regard to treatment, it is conservatism in the early stages. I believe in rest and the use of calomel and a moderate use of salicylates and bromids. Orthopedic treatment should not be resorted to too early, but sooner or later it often becomes necessary. One does not know what can be done in an orthopedic way until several weeks and months have elapsed, for he does not know what the residual phenomena will be. Electrical treatment is not of much value unless pursued after a special fashion. Like the orthopedic treatment, it also should be postponed for a few weeks or months.

Dr. T. L. Kane, Kane: A case which looked exceedingly like intestinal obstruction came into our hospital during the epidemic of poliomyelitis at Ridgay. From the appearance of the child and at the urgent request of its parents we operated, although there was some fear of poliomyelitis. On opening the abdomen every sign of acute peritonitis was found, but no obstruction whatever. The bowels were easily stripped into the colon and the gas and fluid were discharged through the anus. The intestines were emptied and put back. Although relief was observed, symptoms of paralysis developed and the child died in a few days of paralysis of respiration.

Dr. T. Dillers: The placing of sand bags beside paralyzed legs and placing the legs on pillows may be regarded as a sort of orthopedic treatment, and it is this that I had in mind particularly when I mentioned that orthopedic treatment should be begun early. Such minor orthopedic treatment can be carried out by the attending physician. This should be looked after carefully at the earliest possible moment.

Importance of Starches in Infant Feeding.

Dr. Wilson Wellington Feidt, Bellefonte: I would make a plea to the many general practitioners of large experience to recognize the fact that percentage feeding with cream mixtures is not practical, as too many errors will occur, and that simple dilution of whole milk with water and barley water is percentage feeding in a less complex form; that the cream formulas have done more to bring disrepute on infant feeding than any other factor, and that flexibility is an essential rule and of more importance in the successful feeding of infants. The principle underlying dilution of milk is the fact that the proteids do not cause the indigestion.

The Non-Medicinal Treatment of Disease.

Dr. David Riesman, Philadelphia: The introduction of non-medicinal measures of treating disease constitutes one of the greatest advances in medicine. Drugs alone seldom achieve the cure of any malady. Indeed, there are only four diseases for which we have specific remedies—malaria, syphilis, diphtheria and possibly cerebrospinal meningitis. A dollar will usually cover the medicinal remedies that may be required in an ordinary case of typhoid, and the same is true of pneumonia. In typhoid I not only insist on patients receiving large quantities of water by mouth, but I give salt solution by the bowels with satisfactory results. In chronic heart disease drugs have their place; but who would deny the value of physical and mental rest and of careful diet. Non-medicinal measures, either alone or judiciously aided by drugs, are of value in Bright's disease: diet, water, vapor baths, proper clothing and climate. In uremia two measures are of pre-eminent importance: sweating and bleeding. The majority of patients with dyspepsia will recover if put on a proper diet, taught to eat slowly and to chew their food, and sent on a vacation. In chronic constipation, large amounts of water, especially on rising and retiring, a diet largely vegetarian, regular habits, exercise and massage, if persisted in, will bring about the desired results. It is principally in nervous diseases that *non-medicinal measures are supreme*. We have not realized that the psychic element requires psychic treatment. It was this serious oversight that drove the laity into the arms of Christian Science, faith cures, and other forms of mysticism. Christian Science has brought vividly before the people certain ideals of great curative value long neglected by the medical profession, which ideals, however, are neither *new* nor the invention of Mrs. Eddy. Suggestion, autosuggestion, self-forgetfulness, the strengthening of the social consciousness are the elements of the medical creed of Christian Science and they are of undeniable value. They have been used in a desultory way by physicians from time immemorial, but their real importance, as an integral and indispensable part of our treatment of nervous diseases, has not long been recognized. Non-medicinal therapy is illustrated in the good results obtained by the class treatment of tuberculosis. Medical schools have not yet risen to their duty and possibilities in respect to non-medicinal measures. I should like to see drugs and physical measures put on the same level as approved weapons in the battle with disease.

Other Papers Read.

"New Method for the Quantitative Estimation of Albumin in Urine," Dr. Edward H. Goodman, Philadelphia; "Treatment of Alcoholism," Dr. Lowell M. Gates, Scranton; "Chronic Appendicitis Causing Chronic Diarrhea of Several Years' Standing," Dr. Joseph Sailer, Philadelphia; "Operative Treatment of Fistula in Ano," Dr. W. M. Beach, Pittsburg; "Importance of First Aid Dressings in Wounds in Civil Life," Dr. G. W. Guthrie, Wilkes-Barre; "Reports of 200 Surgical Cases Treated in 1907 with Reference to Accidents, Errors and Results," Dr. J. M. Wainwright, Scranton; "Six Hundred and Fifty-eight Cases of Spinal Anesthesia," Dr. W. Wayne Babcock, Philadelphia; "Scope of Local Anesthesia in General Surgery," Dr. L. J. Hammond, Philadelphia; "Color Photography by the Lumière Process," Dr. C. B. Longenecker, Philadelphia; "X-Ray Diagnosis of Joint Tuberculosis," Dr. James K. Young, Philadelphia; "Tumors of the Salivary Glands," Dr. John Speese, Philadelphia; "Roentgen-Ray Interpretation of Fractures," Dr. Stewart L. McCurdy, Pittsburg; "Redundant Sigmoid," Dr. J. G. Clark, Philadelphia; "Exstrophy of the Bladder Treated by Extraperitoneal Implantation of the Ureters into the Rectum," Dr. J. J. Buchanan, Pittsburg; "Pancreatitis," Dr. W. L. Rodman, Philadelphia; "Malignant Adenoma of the Cervix with Vaginal Implantation at the Point of Contact Eleven Years After Operation," Dr. George E. Shoemaker, Philadelphia; "Drainage in Surgery of the Pelvic Organs," Dr. F. Hurst Maier; "Bacterial Vaccines and the Opsonic Index," Dr. A. Parker Hitchens, Glenolden; "Analytic Description of the Eye as an End Organ," Dr. Joseph E. Willetts, Pittsburg; "Malignant Tumors of the Faucial Tonsils," Dr. George B. Wood, Philadelphia; "Gonorrheal Ocular Metastases," Dr. Edward Stieren, Pittsburg; "The Blood in Acute Mastoiditis," Dr R. Milligan, Pittsburg; "Hot-Air Current in Ear Affections," Dr. L. L. Doane, Butler; "Fees and Fee Bills," Dr. W. H. Hartzell, Allentown; "Contract Practice," Dr. John B. Donaldson, Canonsburg; "Fees for Services to Corporations," Dr. George W. Wagoner, Johnstown; "Influence of Hospitals on the Doctor's Income," Dr. C. H. Ott, Sayre; "Influence of Hospitals and Dispensaries as Viewed from the Outside," Dr. J. B. Walker, Philadelphia; "Medical Words Commonly Mispronounced," Dr. Frederick A. Rhodes; "Surgical Treatment of Some of Our Medical Cases," Dr. W. H. Hartzell, Allentown; "How to Prevent Spread of Disease in Our Public Schools," Dr. A. C. Brooks, Wilkes-Barre; "Value and Results of Eight Years of Fumigation and House Isolation for Contagious Diseases in Williamsport," Dr. C. W. Youngman, Williamsport; "Plea for More Painstaking Diagnosis in Chronic Gastric Disturbances," Dr. W. H. Howe, Shingle House; "Economic Loss to Pennsylvania in 1906 from Deaths from Preventable Diseases," Dr. S. Egbert, Philadelphia; "Rational Therapeutics," Dr. S. Solis-Cohen, Philadelphia; "Treatment of Tuberculosis in Rural Districts," by Dr. W. H. Brown, Richlandtown; "Dispensary System of Department of Health of the State of Pennsylvania," by Dr. Thomas A. Stites; "Factors in Operative Treatment of Pulmonary Tuberculosis," by Dr. W. W. Babcock, Philadelphia; "Tuberculous Phthisis: Is a Second Recovery Possible?" by Dr. W. F. Dutton, Walkers Mills; "Gallstones, Etiology, Diagnosis and Medical Treatment," by Dr H. C. Hoffman, Connellsville; "Surgery of Simple Types of Goiter," by Dr. J. M. Wainwright, Scranton; "Pathology, Diagnosis and Surgical Treatment of Gastroptosis," by Dr. E. LaPlace, Philadelphia; "Prevention of Retroversion of Uterus After Childbirth," by Dr. E. P. Davis, Philadelphia; "Chromocystoscopy in Functional Renal Diagnosis, Based on Use of Indican," by Dr. B. A. Thomas, Philadelphia; "Difficulties in Diagnosis of Scarlet Fever," by Dr. J. F. Schamberg, Philadelphia; "Treatment of Scarlet Fever," by Dr. F. L. Van Sickle, Olyphant; "Present-Day Therapy," by Dr. J. P. Roebuck, Lititz.

Business Meeting.

The board of trustees recommended to the house of delegates that a committee of three be appointed to act in conjunction with the Board of Public Instruction of the American Medical Association.

WORK OF COMMITTEES.

A resolution was received and referred to the committee on public policy and legislation that the president of the Medical

Society of the State of Pennsylvania appoint a committee of seven to coöperate with the Commissioner of Health of Pennsylvania with a view to preventing the passage of acts inimical to the present vaccination statutes of the state

The reference committee on scientific business endorsed the work done by the committee on malpractice and concurred in the provision in the medical act providing for revocation of licensure for cause

The report of the committee on inebriate hospital was heartily endorsed and the committee continued The suggestion was made that the Pennsylvania bar association be asked to appoint a similar committee to assist in the furtherance of this charity It was recommended that the members of the state society use their influence with legislators to insure the passage of the bill and that the profession interest the laity

The committee on religious newspaper advertising was continued and the committee congratulated on the progress made as decided improvement had been noted in the character of advertisements

ADMINISTRATION OF GENERAL ANESTHETICS

In the matter of the address of Dr J M Baldy as president of the American Gynecological Association regarding the administration of general anesthesia Dr Baldy was commended for the fearless manner in which he had called attention to an evil undoubtedly existing in a great part of the commonwealth The secretary editor was requested to write several editorials on the subject during the year directing attention to this danger

RESOLUTIONS ON FOURTH OF JULY MEDICAL RESEARCH, TRACHOMA AND VACCINATION

A resolution relating to the Fourth of July fatalities was commended and the appointment of a committee of three suggested to devise ways and means for the amelioration of the conditions named

Dr Jay F Schamberg offered a resolution to the effect that a committee of five be appointed by the president of the society whose duty should be to secure appropriate literature on the medical act the questions of vaccination and vivisection and further through coöperation with the county societies committees on public policy to secure the influence of family physicians with their legislators in these matters

A resolution was passed congratulating the Surgeon General of the Public Health and Marine Hospital Service for providing for the publication of bulletins of comments on the Pharmacopeia

Dr Wendell Reber offered a resolution which was adopted, to the effect that the Medical Society of the State of Pennsylvania appoint a committee to investigate the subject of trachoma inquiring the probable number of cases existing obtaining statistics relative to its establishment and control, securing opinions on the subject from the various eye specialists of the state which material should be presented at the next annual meeting with a working plan for the eradication of the disease

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NORTHWESTERN BRANCH OF THE AMERICAN PHARMACEUTICAL ASSOCIATION

HENNEPIN COUNTY (MINN.) MEDICAL SOCIETY.

Joint Meeting held in Minneapolis, Oct 19 1908

Dr F A Knight president of the Hennepin County Medical Society, in the Chair

In spite of the fact that a noted statesman delivered an address on the same evening the attendance was large about a hundred being present

The Council on Pharmacy and Chemistry of the American Medical Association

Dean Wulling president of the Northwestern Branch of the American Pharmaceutical Association congratulated the physicians and pharmacists of America on having such an institution as the Council and referred to efforts made by certain leading pharmacists years ago toward the establishment of a central bureau and laboratory similar to the one now conducted by the Council After a brief reference to the conditions and circumstances which led the American Medical Association to establish this body he spoke of the large amount of work carried on in the office and laboratories of the Council As an illustration of the work done by the Council in carrying out its purpose of furnishing to physicians accurate and reliable information regarding new and non official remedies, Mr. Wulling presented the results of its recent examination of the tablets of bismuth, opium and phenol The recent analysis of the so called fluidextracts of hydrastis was also cited He pointed out that physicians, as a rule, were sometimes mistaken in their confidence in the unvarying composition and uniformity of the wares of the average manufacturers and predicted that in self defense they will have to rely more on the scientific pharmacist Physicians could obviate all uncertainty as to strength, composition and uniformity of the remedies they prescribed by formulating prescriptions with official standard drugs and preparations for which the Pharmacopeia furnished standards and which conscientious and capable pharmacists always met He insisted that so long as a community contained some entirely competent pharmacists physicians should cease complaining of the poor service rendered by a very few pharmacists since their claim can attach to only a few Mr Wulling was unwilling to admit that pharmacists, as a class were so incompetent as some physicians made them out to be With the large proportion of thoroughly capable pharmacists to be found in every community and with the work of the Council, the physicians could obtain better service now than ever before and under these favorable circumstances they might be expected to formulate or build up their prescriptions rather than to prescribe ready made proprietaries

In conclusion, he referred to the modified rules of the Council as published in THE JOURNAL, A M A, Sept 26 1908, and suggested that the physicians and pharmacists of Minneapolis indorse them After reading these modified rules, he introduced the following resolutions

Resolved —The Hennepin County Medical Society and the Northwestern Branch of the American Pharmaceutical Association in joint session endorse the modified rules of the Council on Pharmacy and Chemistry of the American Medical Association (published in THE JOURNAL Sept 26, 1908), especially the three rules whereby the Council after Jan 1, 1909 will not accept (1) pharmaceutical mixtures whose titles indicate their therapeutic action or use (2) pharmaceutical mixtures whose titles are not descriptive of their composition (3) preparations which are unessential modifications of an official or otherwise well known preparation

The resolution was promptly adopted by the joint meeting without discussion

Mr Wulling referred briefly to the work done by the Council along lines looking to the stimulating of scientific prescribing and then introduced the following resolution which was also carried unanimously

Resolved —The Council is also endorsed in its attempt to provide standards for unofficial non proprietary preparations and for its efforts toward stimulating scientific prescribing as illustrated in its action on digestive impossibilities and its request to the American Pharmaceutical Association to eliminate Elixir Digestivum Compositum from the National Formulary

DISCUSSION

DR J F SCHEFCIK The work of the Council has done much toward bringing about greater honesty in medical advertising and in enforcing truthful statements on the labels One of the direct results of the work of the Council is the national Food and Drugs Act Specific instances of the exposures made by the Council are Pepto Mangan (Gude) and Vin Mariani

DEAN WULLING In certain recent experiments with iron preparations it has been shown that the freshly prepared ferrous carbonate is superior to all other iron preparations The Liquor Ferri Peptonati cum Mangano of the National Formulary is also a valuable iron preparation

DR B M BEHRENS Our materia medica is too voluminous and involved and the physician should thoroughly acquaint himself with a limited number of official remedies and rely on them rather than be carried away by expectations aroused by detail men which are never realized (At this point the meeting was interrupted by a most unfortunate occurrence Just before concluding his remarks, Dr. Behrens fell to the floor. He was helped into an adjoining room, and there it was ascertained that he had suffered a stroke of apoplexy. He was removed to his home soon after.)

Dr. J. W. Harrah, proprietor of the Eureka Drug Store, found considerable fault with pharmacists and ascribed the prevalence of prescriptions for proprietaries to the delinquency of the pharmacist.

Mr. C. H. Huhn, Republican candidate for the mayoralty: Physicians for some years past have given no encouragement to scientific pharmacists. This is evidenced by the results of a recent investigation which I made and which showed that about a year ago from 75 to 80 per cent. of the prescriptions dispensed called for proprietaries. Since the Northwestern Branch of the American Pharmaceutical Association has pushed the Pharmacopeial and National Formulary propaganda work, I have noticed a marked falling off in proprietary prescriptions and a proportionate increase in formulated prescriptions.

Mr. La Pentotierre: Pharmacists frequently have to correct errors made by physicians in prescriptions.

Dr. Wanous: I deplore the fact that manufacturers have been using physicians as advertising agents to reach the public. Physicians should protect themselves and the legitimate pharmacist by refraining from writing for proprietaries.

Dean Wulling: The criticism that pharmacists are poorly qualified may be refuted by referring to the efforts that the leading pharmacists of Minnesota have made toward the enactment of a prerequisite law in pharmacy. The full and active support of such a measure by physicians would aid materially in increasing the percentage of thoroughly competent pharmacists.

"Patent Medicines" and Counter Prescribing.

Mr. McCall: The dispensing physicians probably over balance the dispensing pharmacists. The pharmacist can be made the physicians' best friend, and by cooperating the two professions can get such legislation and reforms as they desire. Better medical, pharmaceutical and food laws are needed and pharmacists and physicians can be largely instrumental in having them enacted. The prescribing proprietaries and "patent medicines" by physicians is directly the cause of self-prescribing by patients and of counter prescribing by pharmacists. Physicians have made millionaires of the antikamnia and other St. Louis manufacturers by prescribing their wares in preference to official preparations. Physicians really started the public to buy proprietaries. My experience and that of other pharmacists shows that "patent medicines" are on the decline, but that the home prescription business which as yet is in its infancy is taking its place.

DISCUSSION.

Dean Wulling: Many physicians are now prescribing Pulvis Acetanilidi Compositus where they formerly prescribed antikamnia.

Dispensing by Physicians.

Dr. C. A. Donaldson: The physician is justified in dispensing whenever pharmacists can not render the service the physician has a right to expect. I feel that physicians should not accept any favors from pharmacists, not even prescription blanks. I advocate, however, close cooperation between pharmacists and physicians to the end that the medical practitioner be relieved from the necessity of dispensing even occasionally.

Other Papers.

Dr. I. Sivertsen sympathized heartily with the pharmacists and expressed the hope that physicians will use no other than the U. S. P. and N. F. products. He asserted that the use of alkaloids by physicians was on the increase, and concluded his remarks by expressing the hope of frequent joint meetings being held.

Dr. Barton cited instances in which the conduct of pharmacists seem aggravating. Every one agreed with him that pharmacists have no right to change physicians' prescriptions nor to prescribe. Dr. Barton objected to the display of "patent medicines" sometimes made by pharmacists.

Mr. A. D. Thompson said that the day of counter prescribing by pharmacists and dispensing by physicians was rapidly passing away and that the closer association of the two professions recently brought about was creating a better understanding and the feeling of greater sympathy in each other's work and responsibility.

Mr. Thomas Voegeli could only see good issuing from these joint meetings. He complimented the participants on their friendly and frank candor. He saw in these meetings a foundation for further development that would accrue to the benefit of both professions.

Dean Wulling expressed the willingness of the Northwestern Branch of the American Pharmaceutical Association to indorse the action of the Minneapolis *Journal* in refusing objectionable medical advertising after existing contracts have expired.

Dr. Whetstone was of similar mind and added that the Women's Christian Temperance Union had done much to bring about the suppression of objectionable advertising throughout the country.

On motion of Dr. Litzenberg, which was duly carried and seconded, the president of the Hennepin County Medical Society was instructed to appoint a committee to work jointly with a committee of the Northwestern Branch of the American Pharmaceutical Association to express to such local newspapers as refuse to carry objectionable medical advertisements the endorsement of both associations. The committee appointed consisted of Dean Wulling and Dr. Litzenberg.

MEDICAL ASSOCIATION OF THE SOUTHWEST.

Third Annual Meeting, held at Kansas City, Mo.,

Oct. 19-21, 1908.

(Continued from page 1537.)

Chorea.

Dr. M. A. Kelso, Enid, Okla.: Probably as many remedies and therapeutic agents are used in Sydenham's chorea as in any other disease known. The sanitary surroundings of the patients must be corrected and they must be relieved from all excitement—isolated from crowds and from irritation. Quiet—absolute rest—constitutes the best of all cures. The companions of these patients should be jovial and jolly, but not too hilarious. No sad or solemn occasions should be brought to their view, no horrifying stories or exciting novels read. Frequent and healthful baths should be employed, and, when not excitable, cold applications made to the spine. I have obtained good results by using ice frequently rubbed up and down the spinal column. If ice is not obtainable a towel may be wrung out of cold water and applied frequently to the spine. It will afford great relief. The diet should be of rich, blood-making foods; hence the drugs used should be tonics and regeneratives, especially those working or acting on the blood-making functions.

DISCUSSION.

Dr. S. S. Glasstock, Kansas City, Mo.: Season is one of the important factors in this disease, the affection beginning usually in the springtime. The more highly civilized a people, the more susceptible they are to this malady. It is a disease of childhood; practically it does not occur after maturity, especially chorea minor. The disease frequently occurs in girls. We should not lose sight of the close relationship between chorea and rheumatism, nor of the manifestations of rheumatism in patients with chorea. It is a question whether a case of chorea ever occurs or not unless preceded, accompanied, or following rheumatism, or some of its manifestations. In treatment, the child should be removed from excitement and annoyance, and everything should be done to improve the nutrition and to get the patient in a condition favorable for recovery.

Dr. W. S. Lindsay, Topeka, Kan.: In hereditary chorea which we have a condition of the sympathetic nervous system While there must be entirely independent of any infection. we know may be infection in many of the Sydenham cases, It is a sym- that shocks from fright will develop chorea. complex dis- pathetic disorder. I think that this is the most order we have to deal with.

DR. E. H. MARTIN, Hot Springs, Ark.: One form of chorea which we see probably oftener than we do real chorea is the imitative form. History gives us many cases in which girls at boarding schools have been broken up by one case of chorea getting into the school, and dozens of pupils developing the disease thereafter, which was just as real apparently as the original case. The fact that we have this imitative chorea from mere suggestibility shows that it is not necessarily an organic disease, dependent on a lesion, or an affection dependent on an infection. The disease usually develops in those people whose nervous switchboard is a little out of order; their sympathetic nervous systems are a little irritable, and they develop chorea without an organic lesion or without an infection.

DR. G. W. MOODY, San Antonio, Tex.: Chorea is a neurosis in every case. It occurs in neurotic individuals, as all neuroses do. There are two forms, one occurring in grown people, which is chronic, and one occurring in children, which is generally acquired, and which we consider to be infectious in its nature. In the care of these patients two or three things are strongly indicated. The first is rest, freedom from excitement, and freedom from those things in which suggestion plays so prominent a part in all forms of neuroses. Attention should be given to cleanliness and to nutrition, and all those things should be recommended which will conduce to the increase of nutrition.

DR. C. S. MERRIMAN, Kansas City, Mo.: I believe that we might call this disease a starved neurosis. I am inclined to the opinion that chorea, as we see it in children, is an anemic condition, whether due to a heart lesion, to rheumatism, to some form of indigestion, or to anything else. There is an anemic condition—a starved condition—of the nerve centers. It nearly always occurs in children whose digestion is easily affected, whose nervous systems are easily disturbed, and so we can understand how the trouble can develop readily in a child. No matter what the cause of the trouble, rest, good food and little medicine are sufficient to effect a cure. We should not neglect proper bathing and hygienic surroundings.

DR. M. L. PERRY, Parsons, Kan.: I wish to emphasize the importance of rest in these cases of chorea. We should take these patients away from school and from ordinary excitement. It is only in this way that we can enforce rest. It is difficult to make a child take the necessary rest if it is allowed to run about the house, hence it should be put to bed, for at least a considerable part of the day. In addition to rest, we should adopt tonic lines of treatment.

Renal Calculus.

DR. D. W. BASHAM, Wichita, Kan., read a paper on this subject, in which he reported cases and discussed the surgical treatment.

DISCUSSION.

DR. A. K. WEST, Oklahoma City: Some physicians are of the opinion that kidney stone is much more common in one locality in England than in another. In the United States there does not seem to be any stone district. I believe that the character of the water we drink has little, if anything, to do with the formation of renal calculus. I think, however, that certain other conditions predispose to renal stone. Nephritis following scarlatina is likely to be followed by calculus patients DR. F Some authorities have called attention to the fact that clumps of bacteria may form a nucleus for the precipitation of stone, but this has not yet been proved. If a stone forms from acid urine it may be counteracted by rendering the urine alkaline. Unless one has a stone to deal with, if the alakline urine be alkalinized the patient is made worse. If the urine is too alkaline it should be acidified, if possible. Benzoic acid lays claim to that possibility, but I doubt its efficacy. I differ with most surgeons concerning the number of patients with renal colic which should be operated on. Since there are only recurrent attacks, with no evidence of pus, except the passage of calculi with pain for an hour or two at a time, and no after symptoms, I do not refer such patients to surgeons. When there is pus formation or obstruction, pyonephrosis or hydronephrosis, the condition becomes surgical, but to operate on a patient with recurrent renal colic, without any other symptoms and with no constitutional deterioration, is a mistake, because the history of many patients is that they will have three or four attacks and thereafter have no further trouble.

DR. A. R. KEIHER, St. Louis: Location of stone in the ureter, as determined by the character of the pain, the pain being referred to the testicle, I will say that this is a point to which Dr. Bryson gave considerable attention. He stated that in all cases in which the stone was above the brim of the pelvis, the symptoms were never referred to a point below the brim of the pelvis, but that if the stone was along the course of the ureter, there were reflex symptoms in the testicle, and not before that.

DR. W. T. ELAM, St. Joseph, Mo.: The consensus of opinion as to treatment is, I believe, that as soon as a diagnosis of stone in the kidney is made the time has arrived when the condition should be considered surgical. There is no chance of dissolving such a stone or stones by any medicine. When nephrectomy is necessary in connection with pyelonephritis or pyonephrosis, or hydronephrosis, there is not that danger connected with the operation that there would be had one not a diseased kidney to deal with. Primary nephrectomy, however, is to be avoided, if possible. Nephrotomy or nephrolithotomy, with drainage established, is the operation, but if it is found that the kidney is so badly disorganized that it can not be saved, then secondary nephrectomy should be done. That operation is not attended with a large mortality—at least, it has not been so in my hands.

(To be continued.)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Louisville, Ky., Oct. 13-15, 1908.

(Continued from page 1536.)

President's Address: Currents and Counter-Currents in Medical Advance.

DR. ARTHUR R. ELLIOTT, Chicago: I agree with President Burrell, of the American Medical Association, that public instruction should be placed in the hands of a special board; that it should not be taken up by the profession generally; that everything put out should be carefully edited, in order to exclude the sensational and misleading; that the question of the treatment of disease other than preventive should be avoided. The future of medical education of the laity rests in the proper instruction of the young, and this manifestly must be carried on in the schools. Intellectual reform after adolescence is difficult. Few of our present patients will ever rightly understand our principles or our methods, the reasons for our successes, or the explanation of our failures. What they do understand is personal character on the part of the physician, honesty and good sense, kindness and sympathy, liberality and benevolence to rich and poor. Our influence for good with patients depends largely on the degree to which we are able to retain a personal hold on their confidence and loyalty. Too often there is encountered on the part of the public either a spirit of indifference or a disposition to be hypercritical. One contributing factor rests in the weakening of the personal bond, the respect and good understanding existing between physician and patient. No one acquainted with the tendencies of the times will blame the physician for this, and yet it may be asked whether in the scientific devotion of the last two decades physicians have not allowed their relations with the public to become too impersonal. During recent years there has been a tendency to base not only diagnosis and prognosis, but treatment, on the results of laboratory research, on information obtained by instruments, rather than on knowledge gained of specially trained senses and clinical judgment ripened by experience. Careful clinical observation can not be substituted by laboratory investigation, or by mechanical aids. The ideal training of the physician is based as largely on the correct observation of clinical facts as on skillful interpretation of laboratory findings. He who neglects the latter source of knowledge denies himself an invaluable aid to diagnosis, while he who undervalues clinical observation and depends too exclusively on the laboratory becomes a perfunctory observer, a neglectful watcher of the sick, and soon loses his senses of clinical values.

Tropical Diseases and the Mississippi Valley.

DR. GEORGE DOCK, New Orleans, delivered the address in medicine: I wish to emphasize the importance of thorough instruction of medical students in the nature, recognition and treatment of tropical diseases. A pressing need is a more extensive activity in the investigation of tropical diseases in the United States. The valuable results of the schools of tropical medicine of Liverpool, London and Hamburg show what may be done and what should be done by all countries having similar problems to deal with. There is a great activity in the search for new methods of treatment of many tropical diseases. Synthetic drugs, sera and vaccines are being thoroughly explored, as they should be, but the most important part of the treatment is preventive. The essentials for this are the same in tropical diseases as in those of temperate zones. They consist, briefly, in keeping uncontaminated air, water and soil, the extermination of vermin, both large and small, and the preservation of the general health at the highest possible pitch. In the carrying out of a campaign for the prevention of disease it is obvious that much can be gained by having the general direction in the hands of a federal officer, a consummation now near realization. But even more important than this is the recognition of the need of a more distinct and definite effort all over the country. In this regard physicians have a serious and important duty, not by telling people what to do, but by letting them know, as they themselves know, why the changes should be made. Having the knowledge of what should be done in a general way, it will be easier to place the actual work in the charge of experts.

Present Status of Kidney Surgery.

DR. ARTHUR DEAN BEVAN, Chicago, delivered the address in surgery: Floating or movable kidney was first successfully handled by surgical treatment when, in 1880, Hahn introduced the operation of nephropexy. This operation has been extensively employed and has given satisfactory results in suitable cases. Since Henry Morris, in 1880, did the first nephrolithotomy there has been steady improvement in the surgery of kidney stone; and since the introduction of the *x* ray this development has been much more rapid. The diagnosis of kidney stone can now be made definitely before operation, and modern operative technic has made it possible to remove renal calculi in uncomplicated cases with a low mortality. In tuberculosis of the kidney the disease in 90 per cent. or more of the cases is at first unilateral. A distinct line should be drawn between genital and urinary tuberculosis. Urinary tuberculosis begins always in the kidney, and then descends into the ureter and invades the bladder. Early diagnosis is of extreme importance. In treatment, three methods have been advocated: general hygienic treatment, specific treatment with tuberculin, and surgery. Primary nephrectomy for early unilateral kidney tuberculosis can be done with less than 5 per cent of mortality. In unilateral renal tuberculosis early nephrectomy is the best treatment. In bilateral renal tuberculosis the treatment should be hygienic, plus tuberculin, until the value of this method has been proven or disproven, in some cases such palliative, surgical measures as nephrotomy and drainage may be of service. Modern surgery can now offer much in the treatment of many diseases of the kidney. Progress is being made rapidly, and one can hope that the future will add much to that which has already been accomplished. Diseases of the kidney belong for the most part to that borderland which must be cultivated by both the physician and the surgeon, in order to bring forth the best fruit. The physician who handles these cases should keep in close touch with the surgical progress being made. He should follow the case to the operating table and see for himself *in vivo* the pathologic conditions which are responsible for the symptoms present. The surgeon must understand fully the value and possibilities of medical treatment before he can arrive at a true estimate of the value of surgical procedures.

Bismuth Paste in Treatment of Rectal Fistula.

DR J RAWSON PENNINGTON, Chicago: Beck's paste consists of bismuth subnitrate one part and vaselin two parts. When a stiffer paste is desired from 5 to 10 per cent each of white wax and soft paraffin are added. I have treated 17 patients with this paste. In 13 the discharge has stopped, the fistula has closed and they seem to be well. This gives about 76.8 per cent. as cured, which I think is rather high. The patient's bowels are emptied before the paste is injected. The point of the syringe is pressed well into the main opening of the fistula, if more than one exists, and the emulsion is slowly injected. Should there be an internal opening the index finger of the hand not manipulating the syringe is passed into the rectum and made to close the internal opening of the fistula so as to prevent entrance of the paste into the bowel and to aid in forcing it into all the diverticula and tortuous tracts. Success will depend much on the technic and thoroughness with which the procedure is carried out. This paste may and has been used to close deep and overlooked tracts after an unsuccessful surgical operation. It is also valuable in complex cases in which there are a number of ramifications and a communication with the bowel. Surgery leaves scars and irregularities, sometimes making it hard to keep the parts clean.

DISCUSSION

DR H R. ALLEN, Indianapolis: I believe this method of injection of bismuth paste can be used extensively in orthopedic work, particularly in Pott's disease, abscesses etc. After the paste is used, if one will make an *x* ray examination it will open his eyes with regard to the ramifications of the abscess. In surgical procedures we do not always effect a cure because we overlook the ramifications or diverticula of abscesses.

DR J H STEALY, Freeport, Ill: Dr Pennington did not mention whether he considered it necessary to clean out the fistulous tract before injecting the paste. I have noticed that fistulous tracts will close after one or two injections, the patients thinking they are cured, but return in from a week to three months, with the same fistulous tract open.

DR GEORGE B EVANS, Columbus, Ohio: I think it is essential to clean out these fistulous tracts before injecting the paste. I believe a large percentage of failures in treating fistulas surgically are due to careless and to indifferent post-operative work.

DR J R PENNINGTON: I have paid no attention to cleaning out the fistulous tract, although the field is rendered as clean as possible, as well as the syringe that is used in making the injections.

(To be continued.)

IDAHO STATE MEDICAL ASSOCIATION.

Sixteenth Annual Meeting, held at Boise, Oct 8-9, 1908

(Continued from page 1535.)

Resolutions on Public Health.

In the matter of public health the following resolutions were presented and adopted:

Resolved, By the Idaho State Medical Association that it heartily recommends to the Congress of the United States the passage of such legislation as is intended to increase the public health duties and the efficiency of the Public Health [illegible] Hospital Service of the United States. To this end th[illegible] believes the powers of the service should be increased, provisions should be made for the retirement under pay of the commissioned officers of the service, and that the salaries of said officers should be made commensurate with the Medical Corps of the U S Army.

Resolved, That we commend the effort made and designed to secure greater efficiency in all national public health agencies and to this end we advocate at the earliest date practical the organization of all existing national public health agencies into a single national health department, with such improved status and increased powers as will give the Federal Government the strongest possible control over all public health interests not now effectively conserved by the respective states. Be it further

Resolved, That the secretary shall send a copy of these resolutions to the chairman of the committee on interstate and foreign commerce of the House of Representatives, to the committee on national quarantine of the U S Senate, and to the senators and representatives of this state in Congress.

The Social Evil and Effective Methods of Dealing With It.

DR C L DUTTON, Meridian: Child labor, methods of factory employment, the wages of female clerks, and our divorce and matrimonial regulations are all factors in the social evil

Every case of venereal disease should be reported, for publicity. As family physicians we are in a position to educate young people and their parents in regard to this evil. Every father should demand that the young man who asks for his daughter be physically clean. Boys and girls must be properly educated and advised during the receptive period of adolescence. This is the duty of the parents, but it is the physician's duty to see that the parents are properly instructed. I believe that many a life tragedy originates with the misunderstanding of the boy or girl at period of adolescence.

DISCUSSION.

Dr. J. W. Gue, Caldwell: Medical examinations of prostitutes and regulation of these people are almost impossible while our laws will not allow us even to recognize the existence of prostitution, but prohibition, in my opinion, can be made fairly complete.

Dr. T. D. Tuttle, Billings, Mont.: Before we attempt to educate the people, the weaklings of the race should be properly treated, for example, those with well-known diseased conditions of the eyes, ears, nose and throat, then we are in a position to try to educate the people, and we will come nearer controlling prostitution and its evil consequences. The parents should be educated as they are best fitted to instruct their children. Prostitution is a condition which can not be prohibited.

Suggestive Therapy in the Early Months of Pregnancy.

Dr. C. N. Suttner, Walla Walla, Wash.: Most of these patients are more sick morally than physically, and the utmost tact and skill is required in their treatment. Suggestive treatment is of great benefit in dispelling the horrors of motherhood, in relieving the psychoses of the early months of pregnancy, in leading many young prospective mothers away from the criminal abortionist, and from false ideals of married life, and in the relief of vomiting of pregnancy. We have continually to dissipate prejudices, tone up patients by encouragement, often by seriousness and pleasantry. When we dissipate fear, sorrow and apprehension from the heart of the pregnant woman, and substitute a smile we do more toward helping her bear the ordeals of motherhood than the perfunctory distribution of medicines. The inculcation of fear (bluff) may work in a few cases, yet a vast majority yield more to kindness, gentleness and persuasion.

DISCUSSION.

Dr. Jacob Prinzing, Ontario, Ore.: Diminution in the birth rate is not due to the women themselves, but to the conditions of society. Our present-day society compels men and women to subdue their passions during the best part of their lives, their sexual lives. Young men and women are not allowed to marry until too late in life. Parents are prone to discourage the young woman from thoughts of matrimony, and when she does marry the young wife's mother is apt to advise against having children. In these homes one will nearly always find a book, full of things to scare and discourage a prospective mother. The medical profession should publish a book of information and advice for young women. The physician should encourage and educate the parents, and the parents should teach their children. If we educate the parents we will have no trouble with the girls.

Dr. H. W. Coe, Portland, Ore.: In matters of this kind I approve of calling a spade a spade. There seems to be something in a man that under certain conditions will prompt him to do an abortion. There is often a strong temptation to help a woman out of her trouble. If we give these patients good advice and utilize a little psychic influence, many unborn infants can be saved to useful lives. Insanity in the pregnant woman is the most promising type of insanity to treat, but it should not be treated as are other forms of insanity. These women should not be sent to an asylum. They will recover shortly.

Dr. J. J. Hamilton, Caldwell: It is a most abominable fact that society women, even workers in the church, will go to physicians with pitiful tales of woe, and ask them to do abortions.

Dr. J. W. Gue, Caldwell: One trouble is that the people know who these professional abortionists are, and not only consult them, but protect them from legal prosecution. It it difficult to convict a professional abortionist. He does these things daily and is never prosecuted unless a patient dies, even then it is hard to convict. But let the family physician be tempted to do these things and he gets into all kinds of trouble.

Dr. C. N. Suttner: The responsibility for a great moral educational work is on us. The minister is afraid to speak on account of the effect it might have on society and—the collection. The old Mosaic law is no longer taught. We physicians must do this. A book should be written by members of the profession, the right kind of a book, but who would write it without doing so to advertise himself more than to benefit womankind?

Clean Milk.

Prof. H. T. French, Idaho State University: In every civilized country of the world milk holds an important place in the dietary of its inhabitants, and to-day much is being done to render milk more wholesome and attractive by compelling people to keep it clean. While clean milk is most wholesome, no food material is so easily contaminated. Epidemics of disease can be traced to the milk supply. Much has been done to prevent the use of preservatives and to require certain standards of excellence, but comparatively little effort has been made to render milk clean. By clean milk is meant not only milk free from dirt, but also free from injurious forms of bacteria. The number and variety of bacteria which milk contains is a good measure of the cleanliness and care with which the milk has been handled. To bring about better conditions along these lines requires the enactment of a dairy inspection law which shall provide for a dairy and pure food inspector who shall be required to inspect all dairies and farms where milk is produced for market, and the observance of the following conditions should be insisted on: (1) Animals free from disease; (2) clean stables for the cows; (3) no litter or feed to be handled during milking; (4) hay or feed not to be stored above the cows, and cobwebs and other loose dirt not allowed to accumulate on timbers above cows; (5) open milking sheds, all freely whitewashed; (6) cows to be kept clean; (7) udder and adjacent parts to be well cleansed before milking; (8) hands of milkers to be thoroughly washed, and milkers to wear clean clothes; (9) no person in any way sick allowed to handle milk; (10) milk cooled immediately after drawing and kept cool; (11) milk cans or buckets never washed or rinsed in ditch water unless it has been boiled; (12) all milk utensils scalded with boiling water or live steam; (13) after cleansing, milk pails and cans to be kept in sunlight.

Food Inspection and Its Benefits to the People.

Hon. J. R. Fields, State Dairy, Food and Oil Commissioner: No unprejudiced person now doubts the wisdom of pure food legislation, but only those intimately connected with the work realize the far-reaching benefits to the people of this pure food campaign. Six years ago preserves, jellies and jams were largely adulterated and misbranded. Canned corn, peas and beans were artificially colored and preserved. Meats were embalmed with chemicals, and misbranded, and the local butcher used chemical preservatives. The milkman used freezine. Candies, syrups and strained honey were largely glucose. Whiskey seldom contained real whiskey. Vinegars were misbranded, and the spices were but a semblance of the real thing. To-day the conditions are changed. The prepared canned foods are made from pure goods, and if cheap ingredients are used the package is labeled honestly. Milk and meats are free from chemical preservatives, and other food products are correctly and properly labeled. The benefits from these changes are hardly realized by the bulk of the people, as they are by the educated physician. However, there is still much to be done along this line, and the pure food workers need the advice and cooperation of the organized medical profession. The degree of harmfulness or the harmlessness of certain chemical preservatives must be worked out by the physician. Further sanitary legislation is necessary giving the pure food department authority over the sanitary conditions of slaughter houses and other places where food is prepared, stored or served.

DISCUSSION ON PAPERS OF PROF. FRENCH AND MR. FIELDS.

Dr. R. J. Cluen, Des Moines, Iowa: My experience as dairy inspector has demonstrated to me the importance of this subject. The habit of using formaldehyd for preserving milk is pernicious. Country stables are notorious for their filth. I have found freezine used extensively to save spoiling milk. Filthy slaughter houses should be regulated by legislation, and I suggest that the association take steps to further the securing of such legislation.

Dr. C. A. Smith, Seattle, Wash.: The Seattle board of health in handling the milk supply appointed a milk commission and succeeded in bettering the supply considerably, but even by putting a premium on certified milk the board succeeded in getting only one man to comply with the full requirements. Later the commission refused to receive milk from country dairies that would not stand inspection, and this latter move caused a marked improvement in the death rate among children. It is necessary in these cases to bring force to bear on dairymen to compel them to comply with the sanitary regulations.

Gastric Surgery of the Present Day.

Dr. R. C. Coffey, Portland: Prior to two years ago the technic of gastrointestinal surgery had made rapid improvement, with corresponding lowering of mortality and increase of beneficial results. But during the past two years no changes of importance have been made in the technic. The introduction and use of the Fowler position has materially lessened the death rate, particularly from the complicating pneumonias. I think that we have reached the age of minimum mortality for gastric surgery until methods of diagnosis are further improved and the surgeon sees many of these gastric cases earlier, or is better able to differentiate his cases.

DISCUSSION.

Dr. E. Van Note, Boise: About 50 per cent. of cases of gastric ulcer do not require operation; so we see the great value to the patient of an early and correct diagnosis.

Dr. Stewart: Gastroenterostomy is now seldom done except for pyloric obstruction. Adhesions, ulcers and dilatation may give same symptoms and require gastroenterostomy, but obstruction is the main indication for this operation. In malignant disease of stomach, operation gives temporary relief.

Dr. R. C. Coffey: With improved methods of diagnosis there will be less operating for non-malignant and more operating for malignant disease of the stomach. Malignant cases should be diagnosed early. It is inexcusable for a physician to treat patients for months for indigestion, until with loss of weight, etc., there is no doubt left but that the condition is malignant and it is too late to operate. I believe that there can be no further improvement of the technic of gastric surgery. The improvement must come in diagnosis. The general practitioner should be able to diagnose stomach disease early, and in every case of stomach trouble in which he has not obtained results he should call in an internist for help in arriving at a diagnosis, and if there is still any doubt the patient should be referred at once to a competent surgeon for his opinion. The surgeon knows more about cancer, as he sees more of these cases. In all doubtful cases an exploratory incision is always in order and is harmless.

Intestinal Putrefaction and Its Relation to Indicanuria.

Dr. Ray W. Matson, Portland: Our knowledge of problems of metabolism is yet in its infancy. We find in the intestines ideal conditions for bacterial growth, but physiologists have failed to account for the presence of these organisms. While bacterial invasion is unavoidable, fortunately the predominating types are saprophytic and nonpathologic. Intestinal putrefaction with indol production has been demonstrated to be due to presence of *Bacillus coli communis* acting on the products of anaërobic activity or on the products of normal proteolytic digestion. Absorption of indol is followed by the appearance of indican in the urine. Holland's method of determining urinary indican is as fol- hydrochloric acid; then add 3 grains of sodium perborate and lows: To 5 c.c. of urine add an equal amount of concentrated gently agitate. If indican is present the urine deepens in color, and if the amount of indican be large it turns faintly blue. To concentrate the color add 2 c.c. of chloroform and shake gently for two minutes. On standing the chloroform separates at the bottom as layers varying in depth of blueness with proportion of indican present. In the presence of a positive indican reaction we have a reliable index of absorption of putrefactive products, but a negative reaction does not signify absence of indol absorption. The conditions favoring putrefaction are overeating and faulty innervation, leading to disturbances of motor and secretory functions. Overeating is particularly pernicious. Manifestations of absorption of putrefactive products are many, such as loss of weight, premature senility, easily fatigued, and physical prostration and inaptitude for work. Abdominal distension and flatulence, and constipation or diarrhea may exist. Obstruction of bowels causes intense reaction, and the higher up the obstruction the greater the indicanuria. The nervous system is particularly susceptible to poison. Neurasthenia, mental dullness, drowsiness, wakefulness, rheumatic or neuralgic pains, headache. The physical phenomena are depression, melancholia, dread, fear and even delusion, also migraine. Some forms of insanity are thus formed.

DISCUSSION.

Dr. J. L. Stewart, Boise: Intestinal putrefaction seems to be an important factor in the production of many conditions, especially of the nervous system. Neurasthenia, migraine, and particularly epilepsy, may be caused by autointoxication, and also obscure lesions of the muscular system and heart. I do not test urine for indican so often as I should, and I think this is a common mistake of the profession. The relation of intestinal putrefaction to acute melancholia and insanity is evident, and the secondary anemias of young girls are undoubtedly due to this cause. Overeating is unquestionably an important cause of putrefaction, and it is a common practice among Americans. It is a well-known fact that forced feeding of tuberculous patients causes intestinal putrefaction, and the urine of these patients should be frequently examined to determine this fact. The indican test is a doubtful one in intestinal obstruction. We have other, better and easier tests by which we may recognize the condition.

Dr. F. Gillespie: Intestinal putrefaction is a frequent cause of disease of the nervous system. Indicanuria is found in nearly all cases of melancholia and neurasthenia, particularly melancholia. The urine should be examined in all cases and proper eliminative treatment used.

Dr. L. P. McCalla, Boise: This condition is more common than is thought. It is a very frequent cause of disease in children, and we often meet men and women who overeat. I think that many nervous breakdowns are due to intestinal putrefaction, and are preventable. Ptomain poisons are probably the cause of many heat prostrations. Postoperative temperature is frequently due to this condition. I have used phosphate of soda in neurasthenic cases with marked benefit, due to its cleansing effect on bowels.

Dr. J. M. Taylor, Boise: I have always had the impression that intestinal putrefaction was due to an imperfect digestion, and that the symptoms produced were due to absorption of improperly digested food products. Many patients seem to be without clinical symptoms.

Dr. R. W. Matson: It is just as important to make a routine practice of examining for indican as for albumin or sugar. Examinations of stools are difficult and require much time. I believe that there is an absolute relation between migraine and indicanuria. Cylindroids and a few casts are frequently found in connection with indicanuria. Overeating is a pernicious habit and is undoubtedly the cause of many ills. I intentionally avoided treatment in my paper, but by cleansing out bowels and restricting the diet we may starve the putrefactive bacteria and relieve the symptoms. Authorities differ concerning the effects of normal digestion on putrefaction. Some people can not take starches or sugars without producing intestinal putrefaction. All my tests were made by the method given in paper.

(To be continued.)

Medicolegal

What Constitutes Practicing Medicine, Etc., Under New California Law.

The Supreme Court of California construes, in the case entitled Ex parte Greenall, the act of that state of March 14, 1907, with reference to what constitutes the "practice" of medicine, etc., under it. The act is entitled "An act for the regulation of the practice of medicine and surgery, osteopathy, and other systems or modes of treating the sick or afflicted, in the state of California, and for the appointment of a board of medical examiners in the matter of said regulation."

The court says that the 1907 act provides: "Any person who shall practice or attempt to practice or advertise or hold himself out as practicing medicine or surgery, osteopathy, or any other system or mode of treating the sick or afflicted, in this state, without having, at the time of so doing, a valid, unrevoked certificate, as provided in this act, shall be guilty of a misdemeanor." The act nowhere states, as did the act of 1901, which was limited to a regulation of the practice of "medicine and surgery," what is meant by the term "practice" as used therein.

The act of 1901, after providing that "any person practicing medicine or surgery" without a license should be deemed guilty of a misdemeanor, provided, in Section 16: "The following persons shall be deemed as practicing medicine or surgery within the meaning of this act: 1. Those who profess to be, or hold themselves out as being, engaged as doctors, physicians or surgeons in the treatment of disease, injury or deformity of human beings. 2. Those who, for pecuniary or valuable consideration, shall prescribe medicine, magnetism or electricity in the treatment of disease, injury or deformity of human beings. 3. Those who, for pecuniary or valuable consideration, shall employ surgical or medical means or appliances for the treatment of disease, injury or deformity of human beings. . . . 4. Those who, for a pecuniary or valuable consideration prescribe or use any drug or medicine, appliance or medical or surgical treatment, or perform any operation for the relief or cure of any bodily injury or disease." There was thus given by that act to the term "practicing medicine or surgery" a definite meaning, corresponding substantially with the popular understanding of the term. When we say that one is practicing medicine or surgery or osteopathy, we ordinarily mean that he is engaged in that line of work as a business, holding himself out as being so engaged, or for a consideration treating those who will accept his professional services, and we would not apply the term to one who incidentally and gratuitously suggests or puts into operation some method of treatment in the case of one who is "sick or afflicted."

The court is satisfied that the term "practice" in the act of 1907 should not be given any broader meaning than it had in the act of 1901. One who within this meaning "practices" medicine or surgery or osteopathy, or any other recognized mode of treatment of the sick, without a certificate, violates the provisions of the act. It might be sufficient in the complaint to charge simply that one had practiced medicine, or osteopathy, or chiropractics, without such certificate. In such an allegation, the word "practice" would, in view of the accepted meaning it is given when used in such connection, reasonably bear no other construction than the one the court has described, and so construed would show an offense.

But the complaint in the case before the court contained no such allegation. The allegation was simply that the defendant did willfully and unlawfully "treat the sick or afflicted" without having at the time a valid unrevoked certificate as required by the act, the words "by practicing the system or mode known as 'chiropractic,'" being simply descriptive of the method by which he treated the sick. As thus used, the word "practicing" could not reasonably be given the meaning the court has described, but was synonymous with the word "using."

The court was informed in the briefs that the word "chiropractic" meant a treatment somewhat analogous to that of osteopathy, the removal of the cause of disease without the use of drugs or any other means except the adjustment of the vertebræ of the spine by manipulating them with the hand. If this was correct, the complaint in this case simply charged that the defendant used this method in "treating" the sick or afflicted, without having any certificate under the act, and the allegations of the complaint would be fully sustained by proof that he had incidentally and gratuitously attempted to administer aid to one who was sick or afflicted by the use of this method. It might as well be contended that a complaint simply charging that one treated a sick person by administering medicine, without having a certificate, would state a public offense under this act. To bring a person within the provisions of the act, it must appear that he practices, or attempts to practice, medicine, etc., as a business or calling, or advertises or holds himself out as so doing, and, as the court has said above, an allegation that one "practiced medicine" or surgery, etc., might show this.

No Fixed Percentage of Alcohol That May Be Used in Medicinal Preparations.

In a ruling of Oct. 3, 1908, Robert Williams, Jr., Acting Commissioner of Internal Revenue, states that there is no fixed percentage of alcohol which may be used in the manufacture of alcoholic medicinal compounds without rendering the manufacturer liable to special tax as rectifier, the ruling being that such alcohol as is used must be so medicated as to render it unsuitable for use as a beverage, and only such amount may be used as is necessary to extract the properties of the ingredients, or as a preservative or solvent.

Having a Diploma Does Not Make a Licensed Physician.

The Supreme Court of Alabama says, in McAllister vs. State, where it was averred that a certain person was a licensed physician, that the fact that the physician had a diploma did not prove it, and to allow him to testify that he had such a diploma was incompetent and illegal evidence. Furthermore, the diploma, if of any value as evidence, should have been produced, and hearsay evidence of its contents was inadmissible.

Contracts and Compensation for Services.

The Supreme Court of New York, Appellate Division, First Department, says that the case of Burke vs. Mulgrew was an action by a physician against the estate of his father-in-law, in which the physician claimed that he was entitled to compensation for loss sustained through absence from his office in addition to compensation for services rendered. But a contract to pay more than the actual value of the services rendered is quite unusual. Testimony, however, that the services of a particular physician were desired at such place and under such circumstances that compensation for the services would not be adequate remuneration for the loss of time or business would tend to render probable testimony that an agreement was made to compensate the physician for both services and necessary loss of time or business; but such testimony should not be construed as contemplating compensation for the full time or loss of business and for the services as well, for the former would embrace the latter. A construction which would give the physician double compensation should not be given to the contract, unless the language employed was susceptible of no other construction, and in that event the extraordinary character of the promise would render the testimony improbable, and require that it be well supported by facts and circumstances to sustain a recovery thereon.

The court also holds that it was error to exclude evidence designed to show that the family relations were such in this case that the physician and his family frequently visited at the residence of his father-in-law and accepted his hospitality during part of the time for which he charged for his services. This evidence was competent, as tending to show that the calls for which the physician was charging were materially prolonged by visiting, for which his father-in-law was not properly chargeable, and that there was an overcharge for time.

Evidence with respect to the physician's annual income prior to the date he began rendering the services in question was doubtless proper as tending to show the value of his time, which might be considered by the jury in estimating the compensation to be made for his services and time when absent from the city; but on no theory of the case does the court think evidence admissible of the physician's receipts from his practice during the period of the rendition of these services, showing a falling off in business which might have been due to other causes.

The physician being an incompetent witness on account of the death of the patient, there was difficulty, of course, in showing the services actually rendered while traveling; but on the admissions and declarations made by the patient with respect thereto the physician would be entitled to go to the jury on the claim that he had properly prescribed for and administered to the patient during the periods in question, and to ask the jury to so find.

Physical Inability to Work.

The Supreme Court of Nebraska says, in the case of Keith vs. Chicago, Burlington and Quincy Railroad Company, that railway employés only were permitted to join the relief department of the defendant company, an institution organized to pay disability benefits to members. The contract for benefits provided: "The word 'disability' shall be held to mean physical inability to work." The court holds that the words "physical inability to work" mean inability to perform such labor as the injured member was engaged in at the time of his injury, or similar labor which would enable him to earn wages equally as remunerative. Under the provisions of such a contract, if an injured member of the relief department recovers so that he is able to perform such work as is contemplated in the contract, or similar work equally as desirable and remunerative, then the obligation of the defendant to pay disability benefits ceases. But recovery sufficient to enable him to earn much smaller wages at some other employment, or employment procured through the charity or indulgence of friends or relatives, when, in fact, he has not recovered from his disabilities, is insufficient to release the defendant.

Dying Declarations in Abortion Cases.

The Supreme Court of Oregon says, in the case of State vs. Fuller, that the dying declarations of a woman on whom an abortion had been performed were not originally admissible in evidence, on the ground that her death was not an essential ingredient of the offense, which was complete without it; but when her demise, as a result of a premature delivery produced by another person, is made by statute an indispensable constituent of the crime as charged, her dying declarations are receivable in evidence. To exclude that part of the dying declarations of a pregnant woman that tend to prove that the means employed by another person to procure her miscarriage were unnecessary to preserve her life might render convictions in such cases impossible; and, in view of the consequences thus assumed, the court believes that necessity demands that her declarations, tending to establish such constituent of the accusation, are competent evidence.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

October 24.

1 *Alcoholic Psychoses. Chronic Alcoholic Delirium (Korsakoff's Psychosis.) S. E. Jelliffe, New York.
2 Diagnosis of Erythematous and Exanthematous Rashes. C. A. Kinch, New York.
3 *Summary of Results Obtained by X-ray Treatment of Exophthalmic Goiter. G. E. Pfahler, Philadelphia.
4 Case of Squamous-Celled Epithelioma. W. M. Lewis, Baltimore.
5 *Diagnostic Value of Perverted Secretion of Hydrochloric Acid by the Mucous Membrane of the Stomach. G. Chambers, Toronto, Can.
6 Hyperemesis During the Gravid State in Two Successive Pregnancies. H. Grad, New York.
7 Need and Value of Health Inspection Work. L. A. Jones, North Adams, Mass.

1. **Alcoholic Psychoses.**—Jelliffe, in an exhaustive article, discusses the so-called alcoholic paranoias, and the mental disturbance which is associated with a more or less marked degree of polyneuritis, the so-called polyneuritic psychosis or Korsakoff's psychosis. He summarizes the history of our knowledge on this subject, and quoting an account of the mental features from Starr, designates as incorrect the terming of the falsifications of memory "delusions." Science requires that when a symbol is used, the user should have a clearer and more thorough idea of what is meant. For this reason Jelliffe quotes fragments from descriptions by Korsakoff himself. He next describes in great detail the case of a chronic drinker who has frequently been drunk and who entered the hospital unable to walk, with the signs of a multiple neuritis and an active delirium associated with hallucinations of sight and hearing. The mental conditions in this case are striking: 1. In the first place there was a definite disturbance of the man's power of attention. He was not well oriented as to his surroundings, as to time, as to place, although this has improved somewhat. 2. He further showed marked memory defects; a retrograde amnesia which stretches back several months. 3. To make up for these obvious memory defects it was noted that the patient attempted to fill up the gaps by telling of things that he had done which were manifestly impossible. Jelliffe then discusses the pathology at length, summarizing it as follows: A diffuse, severe, destructive process is at the foundation of Korsakoff's psychosis; such process involves the entire nervous system very irregularly, including the parenchyma, blood vessels, the fibers, with the frequent occurrence of small hemorrhagic foci. Such a process is not pathognomonic for Korsakoff's psychosis by any means; certainly, in the acute stages, the clinical as well as the pathologic picture is not distinct from other acute intoxications. However, study may show that the chronic processes are characterized by types of localization not found in other mental disorders, but at best the research involved is time consuming and extremely difficult.

From another case Jelliffe discusses the neuropathologic changes and differentiates the various clinical forms. The treatment differs but little from that of multiple neuritis, but overfeeding is strongly insisted on. Little progress has yet been made in training the memory, so far as the acute stages are concerned. The patient's grasp of things is so slight and so evanescent that applied pedagogy will bring its own reward in loss of time and effort; but later in the course of the affection a true scientific pedagogy may need to be called on, especially if the defects observed are more or less localized. If it is found, for instance, that the patient's optical memories seem to have borne the brunt of the storm and have been left with reduced capacity, it may be desirable to apply the principles of a constructive education to other less affected receptors or their connections. Finally, Jelliffe insists in later stages on out-door occupation, and urges great care not to overdo things in therapeutic efforts. He warns against the use of tonics that contain alcoholics in any form, and particularly condemns peruna and its ilk, which he has known to be responsible for the development of Korsakoff's psychosis.

3. **X-Rays and Exophthalmic Goiter.**—Pfahler analyzes the reported results of the *x*-ray treatment of exophthalmic goiter, and says that at least 51 cases in which the Roentgen rays were used have been recorded in the literature. Of this number, in 42 cases there were good results; in nine patients there was little or no improvement. He draws the following conclusions: 1. Decided improvement may be expected in about 75 per cent. of cases. 2. This improvement consists of an increase in weight and strength, and gradual disappearance of the Basedow symptoms. 3. Some improvement should be noticed within a month, and after from 6 to 12 treatments. 4. When this treatment is properly given there appears to be no danger, and Pfahler can see no objections to recommending this trial of a month in all cases.

5. **Perverted Secretion of Hydrochloric Acid.**—Chambers cites certain physiologic facts bearing on this subject and discusses them. He then briefly states observations on some diseases of the stomach usually characterized by perverted se-

cretion of gastric juice. With regard to carcinoma he holds that the absence of free hydrochloric acid in gastric contents or better, diminished secretion of gastric juice, or of hydrochloric acid, is a valuable symptom, when associated with other well-known signs in the diagnosis of gastric cancer. Alone, it is of little value, as it is also a sign of acute gastritis, chronic catarrh of the stomach, pernicious anemia and other affections. Acid gastritis is a chronic disease characterized by excess of mucus and of hydrochloric acid in gastric contents. The total acidity is high (70 to 120), of which free hydrochloric acid is from 20 to 60. When carcinoma complicates acid gastritis or gastric ulcer, free hydrochloric acid may be present in advanced stages of the disease. This is particularly true of cancer engrafted on a pyloric ulcer. Achylia gastrica is a disease characterized by absence of free as well as of combined hydrochloric acid in gastric contents. It may be a primary neurosis or secondary to organic disease of the gastric mucosa. In two cases administration of dilute hydrochloric acid checked the diarrhea. This suggests a use of hydrochloric acid in the diagnosis of achylia. Hydrochloric acid is a useful agent in the treatment of diarrhea in cases of pernicious anemia and of severe infectious diseases in which achylia may be present. It is difficult to explain its action.

Medical Record, New York.

October 24.

8 *Thoracic Perioste-Edema of Angioneurotic Origin. H. Stern, New York.
9 *Features of the Present Crusade Against Tuberculosis in New York City. N. G. Seymour, New York.
10 *Eupyrexia. C. Calleja, Madrid, Spain.
11 Early Medical Schools and Legal Regulation. J. J. Walsh, New York.
12 Interpretation of Blood Examinations. I. S. Wile, New York.
13 Syphilitic Prophylaxis by the Use of Calomel Ointment. A. L. Wolbarst, New York.
14 *New Simple and Ready Method of Dropping Ether from the Original Can. J. E. Lumbard, New York.

8. **Thoracic Perioste-edema.**—Stern discusses five cases of thoracic perioste-edema of angioneurotic origin. He concludes that this condition occurs much more frequently than is generally supposed; it is closely related to the acute, circumscribed, superficial edema, with which it may be associated. It may be the external manifestation of periosteal swellings on the inner side of the thorax, or the visible evidence of possible angioneurotic edemas of the mucosa of the respiratory tract disturbing the thoracic equilibrium. If rightly interpreted it will always prove of diagnostic aid. It appears oftener in women than in men, and seems to stand in some connection with the catamenia. It requires no treatment in most cases.

9. **The Tuberculosis Crusade.**—Seymour describes the tuberculosis crusade as conducted in New York City, and calls attention to the fact that whereas in New York City the authorities are dealing with a problem of tremendous size and vast civic importance, no community, however small or however ideally situated, is wholly free from the universal scourge of tuberculosis; and however few and isolated the cases, each is a danger to that community. From a single such neglected spark may spread a vast conflagration.

10. **Eupyrexia.**—By this term Calleja means a slight fever in the pretuberculous stage, which he looks on as an attempt on the part of the organism to combat tuberculous infection. Its two factors are: 1, A deficiency of the constitutive oxygen of the cells of the body, which he terms hypoxygenia; and, 2, a superabundant proliferation in the body of the saprophytic tuberculous bacteria, which he calls Ferran's bacilli. Primary hypoxygenia is a general asthenia due to imperfect breathing and an insufficient intake of oxygen.. Secondary hypoxygenia may be either general or local; the former is at times caused by chronic infections like lues or chronic intoxications like alcoholism, sometimes by primary anemia resulting from poor alimentation, and also it may be produced by a dyscrasia, especially when the individuals are narrow chested. Local hypoxygenia may be produced by traumatism and also by an idiosyncrasy. There are five degrees of pretuberculous affections; neuroses, hyperemias, fevers, inflammation and granulations, of which the first four may be preventive processes of the pretuberculous granulations, and may be their curative process once they have appeared. Eupyrexia is an important and frequent disease, especially in young people. Calleja describes four forms. We must respect the fever, he says, considering all antithermics contraindicated and we must not attack Ferran's bacilli, because we should thus unarm Nature of most valuable therapeutic resource. Our first aim must be to prevent hypoxygenia by pure air which will help the spontaneous curative process of eupyrexia.

14. **The Dropping of Ether.**—Lumbard suggests cutting through the soft metal cap of the ether can, about four-fifths round, so that the cap can be bent back without fracture. A small pledget of absorbent cotton shaped to a wick is then inserted, and the flap turned down on it, thus forming a dropper. After use, the flap can be turned back and a cork inserted in the can.

Boston Medical and Surgical Journal.

October 22.

15 *Antituberculosis Program: Coordination of Preventive Measures. R. W. Philip. Edinburgh.
16 *Bursitis. Subacromialis, or Periarthritis of the Shoulder Joint. (Subdeltoid Bursitis.) (To be continued). E. A. Codman, Boston.
17 Serum Treatment of Epidemic Cerebrospinal Meningitis with Report of Twenty-two Cases. F. T. Fulton, Providence, R. I.
18 Pyonephrosis and Renal Calculi in a Pregnant Woman, Induced Labor, Nephrectomy, Recovery. J. B. Wheeler, Burlington, Vt.

15. **Antituberculosis Program.**—Philip comments on the history of the combat against tuberculosis prior to the discovery of the tubercle bacillus, and describes its progress since that time. It is essentially a social problem. In children he is every day more impressed with the frequency of tuberculous lesions, not necessarily pronounced pulmonary or abdominal disease, but slighter forms of glandular affections which often escape notice. Observation leads him to the conclusion that infection may occur by way of the mucous passages at any point from the oral and nasal orifices downward. He next discusses tuberculosis at the school age, from two series of observations based, respectively, on the school children presenting themselves at the Royal Victoria Dispensary for Consumption, Edinburgh (11.5 per cent. of all cases), and his personal examination of groups of children in various public schools of Edinburgh (30 per cent. of children examined), and concludes that tuberculosis is vastly more frequent than is usually supposed. He next discusses tuberculosis nests. The futility of much-existing endeavor is due to the determination of effort too largely toward the individual patient, rather than to the disease as a social malady. A comprehensive program is necessary, including notification, then the dispensary with its group of co-ordinated measures—domiciliary investigation, relations with the sanatorium, hospitals, open-air camps, etc. He goes at length into this subject. An interesting feature is a series of charts showing the mortality curves from pulmonary tuberculosis for London and Edinburgh for the decades beginning 1886 and 1896. While the fall in the later decade in both places is remarkable, he attributes its pronounced character in Edinburgh, especially in the latter years of the second decade, to the development of the complete organization of antituberculosis measures.

16. **Bursitis Subacromialis.**—This paper is supplementary to a paper on Stiff and Painful Shoulders (*Boston Medical and Surgical Journal*, May 31, 1906, and *Ohio State Medical Journal*, Aug. 15, 1906) by the same author. He has now complete notes on seventy-five cases of lesions on subdeltoid or subacromial bursæ, for they are one and the same thing. Subacromial bursa is really the better name, for in abduction the whole bursa is subacromial. The subdeltoid bursa is the portion which in adduction lies beyond the edge of the acromion under the fibers of the deltoid. The relative size of the two portions, will, of course, vary with the position of the arm, for the tuberosity moves in and out, carrying the floor of the bursa with it. He describes with illustrations the anatomy of the joint and the mode of demonstrating the bursa on the cadaver, and discusses the mechanics of the motions of the humerus.

development of the thorax and breathing exercise, with home treatment to prevent relapse; *attention to defects in vision;* correction of vicious habits, and nutritious diet. Pain, backache or tender spots usually appear as soon as muscular contractures in the back are relieved. Indiscriminate use of vibrators is to be condemned; the vibrator does more stimulating than relaxing. It is indicated in asthenic cases, but often does harm to contractures in muscles, in which cases constant inhibitory pressure is indicated. Holding figures a simple device for charting the anteroposterior curvatures of the spine, which consists of a vertical arm pierced by a series of horizontal pegs of equal length, which slide with ease through the arm. On applying the ends of the pegs to the spinal column they push through the arm correspondingly with the curvature, thus reproducing the outline, which can be charted.

53. **Sour Milk.**—McKee discusses the methods in which sour milk is used at present, and the conditions for which it is of service. He states that many cases of intestinal putrefaction can be overcome by means of dietetic and hygienic measures and also by the use of intestinal antiseptics, digestive mixtures, etc.; but when it is considered that sour milk is such a powerful agent and that this milk is entirely harmless, it would certainly seem that such treatment should be the method of election. What we are now in need of is experience resulting from extensive and careful clinical observation, and he hopes that this will be soon forthcoming.

Journal Missouri State Medical Association, St. Louis.

September.

55 *Case of Filariasis Nocturna. J. Grindon, St. Louis.
56 Angina Pectoris. F. E. Murphy, Kansas City.
57 *Review of 300 Ureter Catheterizations in Relation to Diagnosis and Treatment. B. Lewis and C. E. Burford, St. Louis.
58 Kidney Stones: Pathologic, Clinical and Surgical Phases. A. H. Cordier, Kansas City.
59 *Traumatic Rupture of the Bladder. H. C. Dalton, St. Louis.
60 Cystocele. G. A. Beedle, Kansas City.
61 Pneumopleuritis Followed by Pulmonary Abscess. T. A. Blackmore, Windsor.
62 Henry's Rubber Drainage Spool for Empyema of Chest. O. H. Benker, St. Louis.

55. **Filariasis Nocturna.**—Grindon describes the life history of *Filaria bancrofti* and the constitutional and local symptoms of the conditions. He summarizes the growth of knowledge regarding this parasite and describes a severe case of unfavorable prognosis, adding in a note that the patient had nevertheless been perfectly well for a month.

57. **Three Hundred Ureter Catheterizations.**—Lewis and Burford review their 300 cases of ureter catheterization by means of the catheterizing cystoscope and draw the following conclusions:

1. Cystoscopy with ureter catheterization can safely and easily be done in the office under local anesthesia in 95 per cent. of cases in which it is indicated, without so much as a urethral chill; the time of manipulation being an important factor.

2. Catheterization of the ureters is clearly indicated and should be carried out in all obscure conditions of the upper urinary tract; such as hematuria, pyuria not yielding to treatment, ureter colic, and preceding all operations on the kidney and ureters.

3. In all cases of *x*-ray shadow in the ureter regions, a skiagraph should be taken with ureter catheter made of material that casts a shadow, in the ureter as far as it will pass, making an index pointing directly to the stone, before operation is undertaken.

4. Most cases of pyelitis are amenable to treatment in the early stages, by pelvic lavage; and we have yet to see the case in which actual harm was done by such procedure.

5. Flushing of the ureters with mild antiseptic solutions should be carried out as a routine prophylactic procedure, before the ureter catheters are withdrawn.

6. Many cases of ligation or incision of the ureters in removal of large tumors of the abdomen, might be avoided by the preliminary introduction of catheters in the ureters.

59. **Traumatic Rupture of the Bladder.**—Dalton enumerates the predisposing causes of rupture of the bladder as: 1, Alcoholism; 2, sex; 3, distended bladder; 4, disease of the bladder; 5, urethral stricture; 6, age. The exciting causes of rupture are: 1, Blows; 2, falls; 3, kicks, etc. The clinical manifestations are not always clear. The most constant are: 1, A pressing desire to urinate, but inability to pass anything save a few drams or ounces of blood or bloody urine; 2, sudden onset of severe pain in penis and lower abdomen; 3, more or less tenderness and rigidity in hypogastric region; 4, more or less shock, depending on the size and location of the rupture; 5, subnormal temperature and increased pulse rate. Catheterization does not relieve the pressing desire to urinate. The diagnosis is not always easy, although the mere history of recent injury and the presence of a pressing desire to urinate, with *inability to pass anything but a little bloody urine,* combined with pain and tenderness in the lower abdomen, should suffice to guide the physician to the seat of trouble. The danger of surgical intervention lies in delay and in improper technic. Early operation is the watchword. Dalton describes a case in which operation was followed by uneventful recovery.

Long Island Medical Journal, Brooklyn.

September.

63 Indications for Immediate Operations in Abdominal Conditions. L. N. Lanehart, Hempstead, L. I.
64 *Indications for Immediate Operation in Diseases of the Upper Abdomen. R. S. Fowler, Brooklyn.
65 Indications for Immediate Operation Following Traumatisms. A. H. Bogart, Brooklyn.
66 Changes in the Blood in Abdominal Cases Requiring Immediate Operation. A. Murray, Brooklyn.
67 *Treatment of Deformities of Infantile Paralysis. W. Truslow, Brooklyn.
68 Early Diagnosis of Carcinoma of the Uterus. A. M. Judd, Brooklyn.

64. **Immediate Operation in the Upper Abdomen.**—Fowler points out the difference of meaning of the word "immediate" in relation respectively to operations on the upper and lower abdomen. Operation for obstruction or septic conditions occurring in the upper abdomen is immediately imperative, while the same condition occurring in the lower abdomen may be delayed a few hours under proper conditions; such conditions being absolute rest of the patient and an absolutely empty stomach—in a word, the inhibition of peristalsis. The indications for such operation are, 1, hemorrhage; 2, perforation—especially, 3, when the leakage has assumed the characteristics of an abscess, which should always be opened at the earliest possible moment;—4, impending gangrene; 5, obstruction, whatever its cause, of the pylorus, pressure on the duodenum from an inflamed pancreas (in a certain proportion of subjects the head of the pancreas surrounds the duodenum), and duodenojejunal obstruction.

67. **Deformities of Infantile Paralysis.**—Truslow summarizes his paper in part as follows: These deformities are due to the effect of gravity on the weakened member and to the normal muscle pulls, unopposed by the weakened complemental muscles or groups. The prevention of deformity consists largely in the application of an outside factor, counteracting this pull against the affected muscles. The relief from stretching strain on the weakened muscles is a factor in the regeneration of such muscles, and therefore, in the restitution to normal function. When contraction deformity is present it must first be completely overcome, allowing normal passive movements in the joint involved, before restitution of power is possible. This is accomplished by mere stretching or by tenotomy of the affected muscle, and by holding the member in the corrected position by plaster-of-Paris dressing and braces until readjustment is completed. A better outcome as to balance of muscle power at a given joint is sometimes accomplished by the transplantation of strong tendons into the insertion of weak ones. Arthrodesis is used when there is complete paralysis. All such transplantations and arthrodesis must be supported for a considerable time. Systematic physical training of weakened muscles is essential, and apparently completely paralyzed muscles present a hopeful field for this work. As much improvement has already been noted in cases formerly considered incurable, we are not without grounds for this hopeful outlook.

Monthly Cyclopedia and Medical Bulletin, Philadelphia.

September.

69 *Treatment of Chronic Bright's Disease. R. W. Wilcox, New York.
70 Case of Tuberculous Keratitis. W. C. Posey, Philadelphia.
71 *Value of Morphin Derivatives in Ocular Therapeutics. W. Fox, Philadelphia.
72 Uses of Chromium Sulphate in Medicine. L. Kolipinski, Washington, D. C.
73 Medicinal Treatment of Tuberculosis as Interpreted by Sajous. J. M. Taylor, Philadelphia.
74 Tinea Favus Pilaris. J. V. Shoemaker, Philadelphia.
75 Stone in the Bladder. S. L. Gans, Philadelphia.
76 Chloroform Poisoning. J. V. Shoemaker, Philadelphia.

69. **Chronic Bright's Disease.**—Wilcox considers the causes of the uncertainty of treatment of chronic Bright's disease, which he attributes to a certain extent to the two varieties of

kidney affections to which this term is applied. He says that we may conclude that in the treatment of both forms of chronic Bright's disease: 1. Most etiologic factors can be modified. 2. The disease, although physiologically curable, yet is histologically incurable. 3. Remissions must not be mistaken for cures (especially in estimating the value of surgical measures). 4. All therapeutics must be rational, and based on (a) a well-planned diet; on (b) well-regulated metabolism, and (c) decreased work of the kidneys.

71. This article appeared in the *Virginia Medical Semi-Monthly*, June 26, 1908, and the *Ophthalmic Record*, August, 1908.

Northwestern Lancet, Minneapolis.

October 1.

77 Tuberculo[illegible] Minneapolis.
78 Etiology, [illegible] d Diagnosis of Acute Cerebros[illegible] Tuberculous. A. S. Hamilto[illegible]
79 Serum Treatment of Epidemic Cerebrospinal Meningitis. S. M. White, Minneapolis.
80 Epidemic Meningitis. H. L. Staples, Minneapolis.
81 Acute Degeneration of the Liver Following Chloroform Narcosis. F. Corbett, Minneapolis.

October 15.

82 Medical Education, Medical License, and the Future of Medicine. W. H. Magie, Duluth, Minn.
83 *Principles Underlying the Treatment of Acute Intestinal Obstruction. C. L. Scudder, Boston.

83. This article was published in the *Boston Medical and Surgical Journal*, Oct. 15, 1908, and was abstracted in THE JOURNAL, Oct. 31, 1908, p. 1549.

Albany Medical Annals.

October.

84 Animism in Antiquity and the Present State of the Question. C. G. Cumston, Boston.
85 Acute Anterior Poliomyelitis. C. F. Clowe, Schenectady, N. Y.
86 New Method of Producing Local Anesthesia. G. E. Beilby, Albany.
87 The Guest, or Personal Experiences of a Patient in a Hospital for the Insane (continued).

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

September.

88 Empyema: Case of Intrathoracic Growth. F. Martin, Baltimore.
89 Case of Dementia Præcox. J. Collins, New York.
90 Case of Aortic Aneurism. M. Call and R. S. Bosher, Richmond.
91 *A Series of Cases of Tubal Inflammation Treated by Operation. C. R. Robins, Richmond.
92 Fractured Femur in an Infant. J. J. Purdy, Mineral, Va.
93 Pregnancy Complicated by Malformation of Vagina and Uterus. J. Taylor, Bynum, N. C.
94 Causative Factors and Treatment of Enuresis. M. C. Oldham, Lancaster, Va.

91. **Tubal Inflammation.**—Robins gives a study of twenty-one cases of tubal inflammation. In determining the question of interference he adopts the rule that the patient shall at least be no worse off after operation than before, and to attain this end it is necessary to have a clear idea rather of what the future of the patient will be if not operated on, than to rely on the future, pictured by imagination, from what we suppose must follow the pathologic conditions which we find. The first point is the mortality rate, which is small when cases are taken early in hand, and proper treatment is instituted. The operative mortality depends on several factors, principally the character of the infection and the period at which operation is undertaken. The first factor may be divided into two distinct clinical varieties, pyogenic and gonorrheal. Robins describes the sharply contrasting clinical symptoms of these two forms. As to the period of operation, gonorrheal cases may be treated as chronic from the start. In pyogenic cases there are two distinct stages, acute and chronic. He discusses these conditions and illustrates with cases. What becomes of the patients who are not operated on (referring to the effect on the future health and comfort of the patient)? Some cases undergo practically complete resolution, the patient remaining perfectly well, and normal unless closure of the abdominal ends of both tubes precludes further pregnancy. The tendency to resolution is more marked in the pyogenic form and occurs only rarely in the gonorrheal. Favorable terminations, however, are not the rule, and the patient is apt to suffer from constant discomfort and the constitutional effects of absorption, or from recurrent attacks of pelvic peritonitis. Dysmenorrhea may ensue, especially when the uterus is bound. Unless the case undergoes resolution after the first onset of the disease, there is practically no limit to its duration, and nothing but operation is likely to benefit it. Robins next discusses the effect of operative treatment and the transitions through which the practice has gone. He says that many theories were devised to explain the marked and intractable nervous symptoms that developed in women in whom an artificial menopause was induced, but whatever may be the explanation, the fact remains that such patients often present the most annoying, diversified, and rebellious conditions that a physician is called on to treat, and if a choice must be made between the discomfort and pain and semi-invalidism of chronic salpingitis, and the distressing nervous symptoms following the artificial menopause, the former is a condition to be preferred, with such relief as can be offered by local and medical treatment. This question is particularly acute in young women who have never borne children. Robins is fully convinced that it is to the adhesions, compression, and pressure, and not to the ovaries themselves, that the pain is due in most cases. When these conditions are relieved the pain usually disappears. Pain referred to the ovaries without physical cause is commonly due to some disordered state of the nerves or of metabolism, and operation may not only do no good, but may even make matters worse. For inflammatory conditions, the essential step is the removal of the tubes; they have lost their function, and the attempt to restore the function is seldom successful and leaves the inflamed tube an open avenue for reinfection. In a few cases, perhaps, in which strong reasons exist for pregnancy, the patient may desire to run the risk.

The treatment of tubal inflammation should be divided into two classes, acute and chronic. The acute should include those cases in which there is marked constitutional disturbance and local reaction, marked by elevation of temperature and pulse and abdominal distention, rigidity and tenderness. Gonorrheal cases usually are chronic from the commencement, but when the above symptoms are present they should be classed as acute, and are doubtless mixed infections. Radical operation is not indicated in acute cases giving the symptoms mentioned above. Under appropriate treatment, the mortality is low and many cases go on to complete resolution. The treatment consists in the withdrawal of food and purgatives, elevation of the upper portion of the body, and enemata of normal salt solution, either continuous or intermittent, as best borne. A careful watch should be kept for abscess, and should one develop, it should be opened and drained through the vagina. As a rule, improvement is rapid, and in a few days the temperature and pulse will drop to near normal, and the patient will become comfortable.

Louisville Monthly Journal of Medicine and Surgery.

October.

95 *Minor Injuries. J. B. Richardson, Louisville.
96 Mercury. J. Burke, Manitowoc, Wis.
97 Ocular Manifestations of Organic Diseases of the Brain and Spinal Cord. T. C. Evans, Louisville.

95. **Minor Injuries.**—Richardson discusses smashed fingers and toes, simple incised wounds, lacerated wounds of the extremities, scalp wounds, burns and fractures and expresses opinions at variance with the ordinary views. With regard to simple incised wounds he says: "Do not wash these wounds, as we are more apt to wash dirt into them than out of them. These hands are almost invariably dirty when the injury occurs, but I find they do much better when no dirt is washed away from them. The edges are brought into apposition with adhesive plaster if there is any gaping. Sutures should not be used." Regarding injuries to the hand he thinks that when the injury to the bone is in such a place as to stiffen any of the fingers except the thumb or forefinger, they are best off, in working men. The thumb or forefinger being stiff, however, we still have the one or the other to use in conjunction with it.

Montreal Medical Journal.

October.

99 The Limits of Knowledge. G. A. Gibson, Edinburgh.
100 Central Neuritis. E. M. Somers, Ogdensburg, N. Y.
101 Calcified Fibroma of the Orbit J. N. Roy, Montreal.
102 Compound Comminuted Fracture of the Skull; Operation. Recovery. W. J. Derome, Montreal, Can.

103 Fracture of the Neck of the Radius. J. A. Nutter, Montreal.
104 Ocular Tuberculin Reaction. H. McKee, R. P. Campbell and P. G. White, Montreal.
105 *Accessory Eyelid.* G. H. Mathewson, Montreal.
106 Medicine in Canada. M. Charlton.

Dominion Medical Monthly, Toronto.

October.

107 Missed Abortion. R. Ferguson, London, Ont.
108 Expert Medical Testimony. J. J. McEvoy, London, Ont.
109 Squint. E. P. Bucke, London, Ont.
110 Incomplete Myxedema-Hyopthyroidea. J. McWilliams, London, Ont.

Denver Medical Times and Utah Medical Journal.

October.

111 How Does Colorado Climate Influence Tuberculosis? C. Denison, Denver.
112 *What Consumptives Should Come to Colorado.* S. G. Bonney, Denver.
113 What Consumptives Should not Come to Colorado. W. N. Beggs, Denver.
114 Colorado-Born Tuberculosis. C. F. Gardiner, Colorado Springs.
115 Physicians in Colorado for Tuberculosis. A. C. MacGruder, Colorado Springs.
116 Colorado and Asthma and Hay-Fever. W. T. Little, Canon City.
117 Colorado and Non-Tuberculous Pulmonary Disorders. G. R. Pogue, Greeley.
118 Colorado and Cardiac Affections. F. Finney, LaJunta, Colo.
119 Nervous Disorders in Colorado. H. T. Pershing, Denver.
120 The Pupil: Poetic, Prosaic. E. S. McKee, Cincinnati.

Utah Section.

121 Rational Medicine and Those Who Oppose Its Teachings. H. D. Niles, Salt Lake City.
122 The Plague. T. J. West, Salt Lake City.

Maryland Medical Journal, Baltimore.

October.

123 *Stroll Through the Tuberculosis Exhibit.*
124 Maryland Hospital for the Insane.

Journal of the Tennessee State Medical Association, Nashville.

October.

125 Prophylaxis in Tuberculosis. Y. L. Abernathy, Hill City.
126 Experimental Tuberculosis Peritonitis. W. M. Litterer, Nashville.
127 Surgery of Tuberculous Cervical Glands. W. A. Bryan, Nashville.
128 *How Best to Utilize Our Knowledge of the Communicability* of Tuberculosis. H. P. Coile, Knoxville.
129 Marriage and Intermarriage of Tuberculous Subjects. I. A. McSwain, Paris.
130 Bovine Tuberculosis. M. Jacobs, Knoxville.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 10.

1 Varieties of Malignant Endocarditis. F. Taylor.
2 *Bees' Stings and Rheumatism. E. W. A. Walker.
3 Aneurism of the Heart Due to Syphilitic Gummata. P. W. Bassett-Smith.
4 Prevention of Sleeping Sickness. J. L. Todd.
5 Etiology of the Degenerative Changes in the Aorta. G. N. Pitt.
6 Results Obtained in the Treatment of Pulmonary Tuberculosis by the Class Method. J. H. Pratt.
7 *An Exocardial Murmur Often Misinterpreted. J. E. Squire.
8 Arthropathies of Acquired Syphilis. R. Waterhouse.
9 *Attempt *to Prevent Adhesion of the* Pleura After Inflammation. O. Grünbaum and W. O. Pitt.
10 Clinical Estimation of Blood Pressure; the Finger and the Hemomanometer. W. Russell.
11 Apyrexial Typhoid. G. Carter.
12 *Constipation.* A. F. Hertz.
13 Sciatica and Its Treatment. J. B. James.
14 Treatment of Chronic Gastric and Duodenal Ulcer with Antilytic Serum. E. C. Hort.
15 *Human and Bovine Tuberculosis. N. Raw.
16 *Syphilis. A. Neisser.
17 Dermatomycoses Common to Man and Animals. R. Sabouraud.
18 Methods of Dealing with Suppuration in the Maxillary Sinus. S. Thomson.
19 Idem. A. L. Turner.
20 Permanence of the Improvement in the Shape of the Nose Obtained by Paraffin Injection. W. Downie.
21 Results of Application of Tests to "Deaf-mutes." A. R. Tweedie.
22 *Trachael Insufflation in New-Born Infants. J. A. Swindale.
23 *Infective Warts. H. F. B. Walker.

2. Bee Stings and Rheumatism.—Walker reports the result of an inquiry into the alleged popular belief that the poison of bees is protective against rheumatism and may also be successfully employed for its cure. A series of questions was published in certain medical, scientific and bee journals, framed with a view to ascertaining: 1, The extent to which this belief is prevalent; 2, the amount and kind of evidence available in its favor; 3, the amount of evidence which could be obtained to the contrary; 4, the clinical characters of the rheumatism thus stated to be cured. These appear to have been widely copied and to have resulted in extensive correspondence, which the author abstracts, under the headings of letters from medical men, letters from laymen—1, favorable; 2, indefinite; and negative extracts from the lay press and medical press, with notes on artificial preparations of bee poison in rheumatism. There is also an abstract of the results of Dr. Terc, an Austrian physician, of Marburg, Styria, who has carried out the bee-sting treatment for many years past. Walker says that the statements assembled may fairly be regarded as at least establishing a presumption that bee poison can exert some striking influence in rheumatic subjects, and one which deserves an exact investigation. Nor is the action that merely of a counterirritant, since many of the alleged cures are stated to have exhibited a more or less abiding character. He discusses the action of formic acid and the formates in rheumatism, and points out that common beliefs and household remedies of country folk have before now—as in the familiar case of "foxglove tea"—revealed important remedies previously unknown to the medical profession.

7. A Misinterpreted Exocardial Murmur.—Squire directs attention to a murmur which, though synchronous with the beating of the heart and caused by the cardiac impulse, is not produced in the heart or in the large blood vessels, but is a breath sound rather than a heart sound. When heard in the immediate neighborhood of the heart, its rhythm suggesting an association with the cardiac contraction, it easily causes the mistaken impression that it is produced by the blood current at one of the orifices of the heart. As a matter of fact, it is produced in the air tubes of the lung by the forcible rush of air through them. The causation is as follows: The impulse of the heart's contraction or the pulsation of one of the large arteries within the chest may produce temporary compression of a contiguous portion of the lung, thus forcing out of it some of the contained air. This forcible rush of air may produce an audible "whiff" or bruit, which will necessarily be synchronous with the contraction of the cardiac ventricles, and thus cardiosystolic in point of time and in rhythm.

9. Adhesion of the Pleura.—Grünbaum and Pitt conceived the idea some years ago that if it were possible to keep the two layers of the pericardium apart for some weeks after the inflammatory process had subsided, pericardial adhesions either would not occur, or would be less dense and impeding. The obvious method was to inject fluid into the pericardium. This fluid must be non-toxic and permit of but slow absorption. For this reason liquid paraffin was chosen. They report experiments on guinea-pigs, which led them to the conclusion that injections of paraffin were harmless, and even in some cases beneficial, and that this justified its injection into the pleural cavities of patients suffering from pleural effusion. The method adopted consisted in drawing off the fluid by means of a stout exploring needle attached to 4-foot rubber tubing. A negative pressure of from 3 to 4 feet of fluid is sufficient in most cases. When the fluid stopped running the patient was told to take a deep breath and to breathe out slowly. While breathing out, the rubber tube was removed from the end of the exploring needle, and a syringe containing 20 c.cm. of sterile paraffin was screwed on, and the fluid slowly injected. By this means one ran no risk of injecting the paraffin into the lung tissue, and only a slight risk of producing pneumothorax. In the five cases treated in this way, there has been a total absence of untoward symptoms, and movement of the chest on the two sides became equal. But so far one can not be certain of complete success, because Litten's sign has not been re-established.

15. This paper is practically identical with the author's paper before the International Congress on Tuberculosis, abstracted in The Journal, Oct. 10, 1908, p. 1259.

16. Syphilis.—Neisser discounts Siegel's claim to have found another syphilitic parasite, and considers the question settled—Schaudinn's spirochetes are the cause of syphilis. He discusses the observations of Metchnikoff and others in regard to the susceptibility of anthropoid apes to syphilis. He states that Finger's successful inoculation with semen, combined with his own observation, that the testes often retain the virus for a long time, throws a certain amount of light on the possibility of a paternal infection of the child on the one hand and on the other hand of the intrauterine infection of the mother. Outside the animal body the virus remains alive and virulent for at most a few hours; thus there is no very great danger of mediate transmission by means of objects. For the prevention of infection he speaks highly of Metchnikoff's 33.33 per cent. calomel ointment inunction, but denies its infallibility. He regards energetic washing. with sublimate solution—2 to 1,000 and 3 to 1,000—as better. He recommends the following:

	gm. or c.c.			
Hydrargyri bichloridi corrosiv		25		gr. iv
Sodii chloridi		5		gr. viii
Aquæ destillatæ	2			m. xxxii
Alcoholis abs.		5	or	m. ix
Glycerini	100			℥iiss
Or. instead of glycerin, 100:				
Unguenti paraffini	80			℥iiss
Glycerini	20			℥ss

He discusses the method of serum diagnosis of Wassermann, Bruck, and himself, and says that, while theoretically, there still exists much obscurity, one can safely declare that by means of a careful application of this serodiagnostic method—the complement fixation—important disclosures as regards diagnosis can be obtained in a great number of cases. Only with the serum of a syphilitic person do we obtain a positive reaction, but, unfortunately, we can not maintain the converse, that negative reaction indicates freedom from syphilis. Neisser insists, however, that its presence confirms immediately the diagnosis of lues, even when the symptoms are wholly obscure and clinically give no support to the diagnosis of syphilis, or especially when nothing is known of a syphilitic history. He speaks highly of the atoxyl treatment, and insists on the importance of a local treatment for all syphilitic processes. With regard to the question of immunity, he says that we may hold to the old view that diseased syphilitics are "immune" against a reinfection, but we must not designate this refractory power as true immunity, which means that an organism free from the disease is insusceptible to reinfection. On the other hand, the assertion is correct that genuine reinfections are very rare—that is, cases in which a typical syphilis develops for a second time in one and the same individual. The so-called immunity in animals really depends on the fact that they are still diseased.

22. **Tracheal Insufflation.**—Swindale reports the case of a still-born child in which after three-quarters of an hour's effort with all the ordinary measures, no respiration could be started. He then passed a soft rubber catheter into the larynx, and after extracting by suction much exudate, he "gently inspired several lots of clean air into the child's lungs, expelling some of it by pressure over the chest after each inspiration." Natural respiration was thus induced, and has resulted in the existence of a lusty infant. Swindale suggests that this method might be adopted after drowning.

23. **Infective Warts.**—Walker reports a remarkable case in which warts broke out on the lines of a tattooing, being absolutely confined to the tattoo marks. There were 38 warts in all. The patient had never had warts elsewhere and none appeared except on tattoo lines. A sketch is appended showing the figure of a woman tattooed and the situation of the warts on the lines.

Lancet, London.

October 10.

24 *Hospitals, Public Medicine, and Medical Studies. Sir T. C. Allbutt.
25 Introductory Addresses Delivered at Medical Schools at Opening Session, 1908-09. C. Slater, Sir J. F. H. Broadbent, H. Sainsbury, and A. M. Kellas.
26 *Division of the Auditory Nerve for Painful Tinnitus. C. A. Ballance.
27 *Serum Treatment of Cerebrospinal Fever in Glasgow Fever Hospital, Belvidere, Between May, 1906, and May, 1908. J. R. Currie and A. S. M. MacGregor.
28 *An Attempt to Rehabilitate the Permanganates. E. C. Bousfield.

24. **Hospitals, Public Medicine and Medical Studies.**—Allbutt discusses hospital management, clinical pathology, the outpatient question, medicine and the state, a ministry of health, clinical professors, medical studies, the concert of methods, portal of qualification, tests of methods, and the relation of reason and imagination to life.

26. **Division of Auditory Nerve for Painful Tinnitus.**—Ballance describes an operation for which he claims that it brings the distressing symptoms induced by certain forms of internal ear disease within the control of surgery, in that such symptoms may be cured by division of the auditory nerve, just as epileptiform tic in the territory of the fifth nerve is cured by dividing the nerve or removing the Gasserian ganglion. Just as in division of the trunk of the fifth nerve, we may hope some day to be able to spare the motor root, which is in no way concerned in the disease, so in division of the auditory nerve we may hope to be able to spare the nerve of Wrisberg, which is in no way concerned with auditory symptoms. Labyrinthine symptoms have their origin in the cochlear ganglion or in the vestibular ganglion, or in both ganglia, but we can not yet separate surgically the cochlear and vestibular divisions of the auditory nerve, so as to spare one or the other as the symptoms may indicate

27. **Serum Treatment of Cerebrospinal Fever.**—Currie and MacGregor analyze the cases of cerebrospinal fever in the Glasgow Fever Hospital between May, 1906, and May, 1908, in which the patients were treated with four different kinds of serum. The total number of cases was 330, of which 105 were treated with antimeningococcic serum. While leading in general to a negative conclusion, the analysis has nevertheless revealed one result in favor of serum treatment. Although on the clinical side, no obvious or constant train of events has followed the injection of serum, and on the statistical side the total case mortality does not appear to have been reduced, fatal issues delayed or favorable illnesses curtailed, on comparing serum-treated survivors of the first ten days with untreated survivors in respect of case mortality, it is found that the treated cases recovered in greater number, and the difference between the respective percentages is sufficient to carry the implication that serum-treated patients who survive the first ten days of illness have a better chance of life. The authors ascribe the relative high general fatality among serum-treated patients and the absence of demonstrable benefit from early administration, partly to the severity of the acute phase. In most cases, there was at least one injection into the spinal theca after withdrawal of cerebrospinal fluid. Repeated injections were usually subcutaneous; massive injections were necessarily so. The authors do not favor the combined method. The results of Flexner's serum are not embodied in this report as coming later, but will be reported in due course.

28. **The Permanganates.**—Bousfield describes experiments with reference to a mode of disinfection for sewage disposal which should be cheap, non-poisonous, and should sterilize sewage for the time. The view that the presence of organic matter interferes with the disinfectant action of permanganate, he considers a negligible factor. He regards the permanganate as the strongest and cheapest agent for the purpose.

Medical Press and Circular, London.

October 7.

29 Sclerotic Diseases of the Spinal Cord. J. Taylor.
30 *Remarkable Case of Malingering. L. Grant and T. H. Campbell.
31 *Antiseptic Vapors in Pulmonary Phthisis. R. Lee.
32 Neurasthenia. Sir J. F. Broadbent.
33 *Huxley Lecture on Tropical Medicine. Sir P. Manson.
34 Treatment of Varicose Veins—Ligature versus Excision. A. E. T. Longhurst.

30. **Malingering.**—Grant and Campbell report a remarkable case of malingering, which illustrates the great variety and succession of morbid conditions that can be induced hysterically. A hysterical girl, having been a source of trouble for some years, at the age of 18 took to her bed with an unilateral megrim-like headache. No treatment and no remonstrances affected her. As the necessity for remaining in bed had to be supported by evidence of suffering, she resorted to various subterfuges. When sympathy was getting exhausted over the headache, she developed a pustular erup-

tion of the leg, and as she failed to hold the sympathy which each new ailment at first created, she suffered in turn with gastrointestinal catarrh; epigastric pain, ineffective vomiting and diarrhea, accompanied by anorexia and pyrosis; conjunctivitis; bleeding from the gums; simulated asthma, with rapid shallow breathing, and a persistent sham cough; pain in the lumbar region; hematuria and passage of stones, the stones being small quartzite (one of the common rocks of the district), derived in all probability from the soles of her brothers' working boots: profuse sweating; palpitation; shortening of breath and cardiac sinking; pustular eczema of the abdomen; a troublesome onychia; and finally, pains in the interphalangeal joints of both hands, a condition which at the time of reporting was being replaced by insomnia. The authors comment on the fact that a woman who might have led a useful life has been simply a trial and an incumbrance, and that the vicious circle brought about by relatives emphasizing every symptom appears likely to be broken only by death.

31. **Antiseptic Vapors in Treatment of Pulmonary Phthisis.**—Lee urges the value of continuous phenol vaporization in pulmonary tuberculosis, and refers to an apparatus whereby it may be obtained. He quotes the case of a physician's wife, supposedly dying of acute tuberculosis, in which this treatment alone was followed some years ago. Gradually the symptoms of septic fever subsided, the lungs recovered and the patient is now alive and in good health

33. This article was published in the *Lancet*, Oct. 3, 1908, *and was abstracted in* THE JOURNAL, Oct. 31, 1908, p. 1553.

Clinical Journal, London.

October 7.

35 After-Effects of Injuries. C. T. Dent.
36 Bronchiectasis. J. A. Ormerod.
37 *The Personal Factor in Anesthetics. A. de Prenderville.

37. **Anesthetics.**—In view of the fact that physiologists have entered a strong plea for the general adoption of anesthetic machines. whereby dosage may be regulated and controlled, de Prenderville considers it not inopportune to insist *per contra* on the claim of the individual, *i. e.*, the personal administrator, to that consideration which is unquestionably his due. *Practice after all teaches the real thing, that personal equation counts for very much in the conduct of an anesthetic* sequence.

Journal of Obstetrics and Gynecology of the British Empire, London.

September.

38 *Ovariotomy During Pregnancy. C. G. Cumston.
39 *Supports of the Female Pelvic Viscera, in Which the Intra-abdominal Pressure Is Still Further Defined. R. H. Paramore.

38. Abstracted in THE JOURNAL, Oct. 24, 1908, p. 1458.

39. **Supports of Pelvic Viscera.**—Paramore gives additional considerations in support of his theory as to the supports of the female pelvic viscera, as laid down in an article published in the *Journal of Obstetrics and Gynecology*, June, 1908, and abstracted in THE JOURNAL, July 18, 1908, p. 263.

Journal Laryngology, Rhinology and Otology, London.

October.

40 Septic Thrombosis of Cavernous Sinus Following a Radical Mastoid Operation on the Seventh Day. J. A. Stucky.
41 Two Unusual Frontal Sinus Cases. J. Price-Brown.
42 Two Points in the Development of the Middle Ear and Its Contents. T. Guthrie.

Presse Médicale, Paris.

September 26, XVI, No. 78, pp. 617-624.

43 Pathologic Anatomy and Microbiology of Grave Jaundice in Secondary Syphilis. (Ictère grave syphilitique.) A. Sézary.
44 Madagascar Plant as Remedy for Dysentery. (Le rotra.) Jourdran and Liot.

September 30, No. 79, pp. 625-632.

45 *Pathogenesis of Permanent Slow Pulse. (Pouls lent permanent.) H. Busquet.
46 *Tumors from Inflammation. J. Tissot.
47 Modifications in New French Pharmacopeia. (Nouveau Codex.) A. Martinet.

45. **Pathogenesis of Permanent Slow Pulse.**—Busquet discusses the theory which ascribes bradycardia to some disturbance in the inhibiting nerves, and relates the results of experimental research which show that the Adams-Stokes' syndrome can not be ascribed to direct stimulation of the trunk of the pneumogastric nor to reflex stimulation of its nucleus. Only automatic stimulation, such as from the products of vitiated metabolism or defective nutrition of the medulla, are capable of rendering the pulse permanently abnormally slow. Besides the anatomic heart block, it is possible that irritation of the vagus or of its nucleus may cause dissociation between the auricles and ventricles. It is further possible that some poisonous element in the blood circulating in the coronaries is liable to modify the rhythm of the contractions of the myocardium. It is important to determine which of these factors, predominates in the individual case as a logical basis for treatment.

46. **Pseudocancers in the Digestive Tract.**—Tissot relates three striking examples of what he calls inflammatory tumors of the stomach or sigmoid. The tumors were apparently cancerous, with adhesions so extensive that the operation could be only palliative, but they proved to be of inflammatory nature and the gastroenterostomy was followed by retrogression of the lesions in the stomach cases, while the sigmoid tumor retrogressed after an artificial anus was made on the descending colon. The first patient was a woman of 60 who had had stomach symptoms for fourteen years. She was extremely emaciated and the glands in the inguinal region were enlarged. Five years after the operation she had more than doubled in weight, and there is now no trace of a tumor perceptible. In the second case the pylorus was permeable, but for three or four years the patient, a woman of 33, had painful stomach disturbances, and the operation revealed signs of an old ulcer with a large patch of perigastritic adhesions. The incision in the stomach seems to have put an end to the spasm of the pylorus, which evidently must have existed. This seems to be the explanation of the benefit that follows gastroenterostomy in such cases when the pylorus is found apparently normal. The third patient was a man of 59, with chronic sigmoiditis and large tumor. The artificial anus was made ample and the supposed cancer gradually subsided in the course of two years. Such cases encourage operative intervention in the most apparently desperate cases. The constantly progressive course is one of the most instructive features of cancer; with these inflammatory tumors there is usually an alternation of phases of improvement and aggravation, the improvement following strict dieting.

Archiv für Gynaekologie, *Berlin.*

LXXXVI, No. 2, pp. 255-504. Last indexed Sept. 26, p. 1113.

48 *Traumatic Rupture of Gravid Uterus Near Term. (Traumatische Schwangerschaftsruptur des hochgraviden Uterus mit Austritt des ganzen Eies in die Bauchhöhle.) E. Ehrendorfer.
49 *Symphyseotomy During Pregnancy. (Symphyseotomie in der Schwangerschaft.) F. Lehmann.
50 Ovarian Dermoid Cyst. (Ovarialorganome.)) F. Daels.
51 *Dangers and Usefulness of Intrauterine Injections. P. Zweifel.
52 *Pathogenesis of Eclampsia and Its Relation with Normal Pregnancy, with Dropsy, and Kidney of Pregnancy. A. Dienst.
53 Clinical Behavior of Adenomyoma of Uterus. D. Grünbaum.
54 Connective Tissue Fibers in the Mucosa of the Uterus. (Bindegewebe der weiblichen Geschlechtsorgane.) K. Hörmann.
55 *Toxicology of Placenta; Placental Origin of Eclampsia. F. Lichtenstein.

48. **Traumatic Rupture of Uterus Near Term.**—In the case reported by Ehrendorfer, a farmer's wife, eight months pregnant, fell from a height of a few steps, and after a few days of pains and vomiting she gradually recovered. As delivery did not occur as expected, she was operated on four months after term, and a mummified fetus was extracted by a laparotomy. The uterus had evidently ruptured in the front wall and the entire contents had escaped into the abdomen, the placenta plugging the opening and growing to the edges of the wound and thus preventing the passage of lochia into the abdominal cavity. The patient left the hospital in good condition after two weeks.

49. **Symphyseotomy in Pregnancy.**—Lehmann reports the third case in which symphyseotomy was done as a prophylactic measure a week or two before delivery, in the hope that the scar tissue would stretch during childbirth. As in the other

cases the desired result was not accomplished; the pelvis was not enlarged, as the scar tissue did not yield, not even when there was strong traction from the forceps during delivery.

51. **Dangers and Usefulness of Intrauterine Injections.**—Zweifel has discovered the secret of the contradictory findings by various authors in regard to the passage into the tubes of fluids injected into the uterus. He has been studying the subject for years, making a point of injecting a stained disinfectant into the uterus before removing it on account of cancer. His experience shows that the uterus and the entrance to the tube contract in response to the slightest mechanical or other irritation, and consequently that fluids injected after massage or curetting or even after mere palpation or digital examination find the parts contracted, and thus the fluid does not penetrate into the tubes. On the other hand, when the fluid is injected without any stimulating preliminaries, it surprises the uterus, as it were, and passes almost invariably into the tubes. He found that this occurs even with amounts as small as one cubic centimeter, and even three or four drops furnish enough fluid to make its way into the tubes and set up a peritonitis. Even when the cervix is well dilated, the fluid does not always all run out, especially when it is caustic, causing contraction of the uterus walls from the irritation. He gives an illustrated description of the technic which he has applied in hundreds of cases. A curved metal tube is introduced into the uterus. It contains a twisted wire rod on which cotton is wound. A solution of ferric chlorid is poured through the metal tube and the swab protruding from its tip serves to wipe up the fluid as the tube is gradually withdrawn. The swab also serves to spread the caustic. The facts learned in regard to the penetration of fluids into the uncontracted tubes open a new horizon for therapeutic application of fluids to these structures, especially to combat ascending gonorrhea. He uses for this a mild solution of a silver salt, beginning with 0.1 or 0.2 c.c. of the solution, repeating it every day or two. The patients complained of pains in the affected side for an hour or two, but colic was never observed, and improvement rapidly followed in most cases. He urges others to study the subject in respect to the puerperal uterus, as he has had little experience in this line.

52. **Origin of Eclampsia.**—Dienst devotes nearly a hundred pages to arguments in favor of the assumption that eclampsia is the result of overaccumulation of fibrinogen and fibrin-ferment in the blood. He argues that the increased physiologic demands of pregnancy induce hyperleucocytosis, with consequent destruction of unusually large amounts of leucocytes. This liberates excessive amounts of fibrinogen and fibrin-ferment from the dead leucocytes used up for physiologic purposes. A large proportion of the leucocytes are destroyed in the placenta, and it is possible that all the milder disturbances of pregnancy are the result of the increase in the proportion of the poisonous globulin, that is, the fibrinogen, and of its injurious action on the liver. The fibrinogen probably has an injurious action also on the capillaries, including those in the kidneys. As the liver is unable to neutralize the excessive proportion of fibrinogen, a vicious circle is formed, and pregnancy kidney, dropsy and eclampsia are liable to follow. They are all merely different stages of the same condition. His views lead to the practical conclusion that impending eclampsia might be recognized in time to ward it off if every primipara with edema at the ankles, even without albuminuria, were carefully examined in respect to the leucocytosis and the diet regulated accordingly. Abstention from salt offers good prospects, and reduction of albumin is also advisable as the leucocytes are called on particularly for the digestion of food containing much albumin. Morphin should not be stinted, as it certainly helps to arrest the attacks and render them less frequent. The woman should be delivered as rapidly and as gently as possible, and the removal of the placenta follow as early as practicable; this removes one great deposit of accumulated fibrin ferment. It is possible also that the side-chain theory may show the way for a successful remedy for eclampsia. The fibrin-ferment is certainly an amboceptor, and experimental research has demonstrated the possibility of obtaining an antifibrin-ferment. It is even possible that some chemical substance may be discovered which will neutralize the toxic action of the fibrin-ferment.

55. **Toxicology of the Placenta.**—Lichtenstein's extensive critical and experimental study seems to show, he asserts, that the placenta is no more toxic when its extract is injected into animals than injection of albumin from other sources. He declares that the theory of eclampsia, as due to a specific poison in the placenta, stands on unstable foundations.

Deutsche medizinische Wochenschrift, Berlin.

October 1, XXXIV, No. 40, pp. 1705-1752.

56 *Energy and Matter in Vital Processes. (Kraft und Stoff im Haushalt des Lebens.) M. Rubner.
57 *New Methods for Diagnosing Incipient Tuberculosis. A. Calmette.
58 *Progress in the Study of Diseases of Infants. (Fortschritte in unsern Kenntnissen auf dem Gebiet der Säuglingskrankheiten.) A. Schlossmann.
59 *Prognosis of Operative Treatment of Exophthalmic Goiter. (Prognose der Kropfoperation bei Morbus Basedowii.) Riedel.
60 *Transperitoneal Cesarean Section by "[illegible] Longitudinal Incision." (Transper[illegible] mittels unteren Längsschnitts.) J. [illegible]
61 *Influence of Asepsis and Infection on Technic of Delivery by Section. (Entbindung durch Schnitt.) H. Sellheim.
62 Pyocyanase in Acute Otitis Media. (Pyocyanase bei akuten [illegible] [illegible]euwer.
63 F[illegible] Fetal Membranes. (Entfernung [illegible] mit der Eihautzange.) Scheffzek.
64 N[illegible] [illegible]Valbum.
65 *A[illegible] Taking Pay from Manufacturing Chemists for Scientific Tests of Pharmaceutic Preparations? J. Schwalbe.

56. ***Energy and Matter in the Economy of Life.***—Rubner was selected to review the present state of knowledge in regard to the sum of vital processes which we call life for an address at the recent "Naturforscher Congress," and it is republished here. He protests against the assumption that what we can not understand at present is of necessity unexplainable and supernatural, and he shows how chemists, physiologists and microscopists have each won their way, little by little, into the secrets of Nature, and thrown light on some of them. One of the most remarkable facts is the span of life allotted to each of the mammals, and the regularity with which the intensity of life and the growth is inversely proportional to the duration of the fetal period and the period of growth before attaining maturity. Also that at the time of death each has produced the same amount of energy per kilogram, that is, the living substances in each has accomplished about the same amount of work. In some it has been done rapidly, in others more slowly, but the general law holds good for all. Man is the one exception, as man is distinguished by extraordinary resisting powers, and is able to live much longer than even the mammals most closely related to him. At the time of puberty man has used up only one quarter and at the time of cessation of active growth only one-third of the total amount of energy consumed in the course of one's entire life. Nourishment and transformation into energy and reproduction of used-up living tissue proceed continuously, and there seems to be no reason why they should not proceed indefinitely, except that the parts of the nucleus which preside over the vital processes are incapable of reproduction. As they become used up, there is nothing to take their place, and the individual dies. There is no means of overcoming this physiologic death, and the whole secret of long life is not to shorten it.

57. This article was read at the International Conference on Tuberculosis, in Philadelphia, and was summarized in The Journal, October 17, page 1358.

58. **Progress in Knowledge of Children's Diseases.**—Schlossmann here surveys what has been accomplished in this line since the foundation of the Berlin Pediatric Society, which was celebrating its silver jubilee as he wrote. He comments on the increasing insistence for breast milk for infants, and on the widening acceptance of the assumption that tuberculosis is a children's disease, that is acquired in childhood, can be prevented in childhood, and must be treated and cured while the patient is still a child. He also urges better facilities for and better training in the study of pediatrics.

59. **Prognosis of Operative Treatment of Exophthalmic Goiter.**—Riedel has operated in eighty cases of exophthalmic goiter, and urges others to advise operative treatment in this disease without allowing it to become the last resort. He makes it a principle to operate without reserve or hesitation when there is a chance of success in a non-malignant affection, while he holds back more than others in cases of cancer. Unless there is a probability that the malignant disease can be absolutely and totally eradicated, he refrains from operating, believing that an incomplete operation entails recurrence, in which case the patient has to contend with both the recurring cancer and the results of operation, while without the latter there would be only the cancer to fight. In a benign affection conditions are entirely different; once relieved by operative measures, complete recovery follows with no dread of recurrence. In exophthalmic goiter the question of operating depends on the condition of the bronchi more than anything else; in case of extensive bronchitis from stenosis—the result of compression by the enlarged thyroid—the prospects are less good. Six patients succumbed to bronchopneumonia in his first 50 cases and one to the effects of the chloroform, and one patient died of bronchopneumonia in his last series of 30 cases. The existing bronchitis in these cases would have deterred others possibly from operating. He has encountered these 80 cases in 874 operative cases of goiter. Patients are learning that the chief danger is from waiting too long. He advocates operating in exophthalmic goiter even when the thyroid is only slightly enlarged, after failure of medical measures not pushed too long. Fully one-tenth of the gland must be left, leaving always some thyroid tissue on each side; its removal is much facilitated by a large horseshoe incision reaching nearly from ear to ear, the lowest part of the incision about 2 cm. above the manubrium. He operates under local anesthesia, and remarks that these patients are particularly liable to be restless and clamorous. The prognosis, however, he does not regard as more serious than that of any operation for goiter.

60. **Transperitoneal Cesarean Section.**—Pfannenstiel regards it as a mistake to reject pubiotomy in favor of Cesarean section in all cases, but the latter may be preferable when, for any reason, it is deemed necessary to allow the patient to get up after four or five days—which would be impossible after a pubiotomy. The transperitoneal section with the low longitudinal incision is preferable also, he says, when the uterus has to be emptied without delay, and the vagina and cervix are normally narrow and rigid. Such conditions encountered in eclampsia and nephritis justify Cesarean section by the abdominal or the new routes, as also in transverse presentation or impending rupture of the uterus from any cause with a living child.

61. **Influence of Asepsis and Infection on Delivery by Section.**—Sellheim tabulates the particulars of twenty-one operative deliveries at the Tübingen maternity, remarking that the "dubious" cases are those in which the obstetrician is at his wits' end. It is too late for a certainly aseptic operation, and it is not late enough for treatment along the lines of the certainly infected cases. For both the dubious and the infected cases, the future belongs to prophylaxis. The responsible accoucheur, he says, has himself to blame if he allows the dubious to become actual infection. The decision as to delivery by section belongs at the very latest in the period before the total bankruptcy of the natural forces. Only before this arrives is the accoucheur able to resort to methods which will save the child without danger for the mother; after this, it is too late. Early recognition of the impending insufficiency of the natural forces enables the operative delivery to proceed with certainty of asepsis. Anticipation of the impending indications is the key to sound conservative principles in obstetrics; false conservatism waits so long that irreparable harm results. It is worse to be too late than to be too early. It is the same in obstetrics as with cancer; the main point is an early diagnosis. In the twenty-one cases related, the four deaths were inevitable from the previous condition of sepsis. Various technics were followed in the different cases, transperitoneal or extraperitoneal Cesarean section or suprasymphyseal delivery.

65. **Ethical Aspect of Taking Pay from Manufacturi Chemists for Scientific Tests of Their Pharmaceutic Prepar tions.**—The German Medical Press Association last year ma out a "blacklist" of writers of unsavory medical write-u as mentioned in THE JOURNAL at the time, and the question to the ethical aspect of physicians accepting pay for any r search of the kind was referred to a committee to report this year's meeting. It was found that the members of t committee held widely divergent views, and question blan *sent to 58 leading physicians elicited 53* expressions of opini which *were also conflicting.* Twelve of the replies were favo able to remuneration from the manufacturing firms for r search on animals and in the clinic, while seven considere payment proper only for experimental research to defray th large expense for animals involved; thirty of the replies denie that an honorarium was ethical for either experimental o clinical research Spatz. the editor of the Munich medica weekly denounced the practice of accepting pay for clinica research on medicinal preparations as opening the door t abuses and as rendering of no avail all the efforts to suppress the commercial medical write-ups. Ehrlich made a strong plea for experimental therapy and for its further development, saying that the manufacturing chemists should pay for tests of their products in scientific institutes, not only the expense for animals, but for enlargement of the laboratory facilities and assistance. Among the others who took the same view were F. v. Müller, A. Fraenkel, Gaffky and v. Noorden. The latter described his practice as the demanding of a certain sum when requested to test a given pharmaceutic preparation, the sum ranging from $250 to $500, to be paid to the hospital or research fund in his charge, half to be paid in advance as a donation, regardless of the outcome of the tests, the other half to be paid when some article on the subject was published by himself or his assistants. He never accepted a personal remuneration. All were agreed that pharmacologic research was entitled to compensation. The committee in presenting its report emphasized the divergence of views, and the Medical Press Association passed no decisive resolutions, not regarding the matter as one for medical editors to decide. The editorial remarks, in conclusion, that there is really no essential difference between utilizing the sick in one's charge as material for paid bedside instruction of medical students, and utilizing them for paid tests of pharmaceutical preparations. The honorableness of one's motives should not be questioned any more than in expert testimony in court. *At the same time, the preponderance of the testimony presented* in the editorial seems to be against the acceptance of pay for such work as incompatible with the dignity of a clinic.

Deutsche Zeitschrift für Chirurgie, Leipsic.

September, XCIV, Nos. 3-4, pp. 201-405.

66 Umbilical Hernia. (Technik der Radikaloperation der Nabelbrüche.) E. Martin.
67 Structure of Synovial Membrane and Absorption of Joint Content Under Variable Mechanical Influences. (Bau der Synovialmembran.) F. Kroh.
68 Roentgen Examination of Spine. (Röntgenuntersuchung der Wirbelsäule.) Grässner.
69 *Perforation of Empyema in Ethmoidal *and Frontal* Sinuses into the Orbit, a Typical Complication of Scarlet Fever. (Durchbruch von Siebbein- und Stirnhöhlen-Empyemen in die Orbita.) H. Preysing.
70 Congenital Dislocation of Hip Joint. (Angeborene Hüftverrenkung.) Dreesmann.
71 Acute Dilatation of the Stomach or Duodenal-Jejunal Ileus? (Akute Magenlähmung oder duodenojejunaler Dünndarmverschluss?) *Kayser.*
72 Isolated Laceration of the Mesentery After Contusion of the Abdomen. (Isolierte Mesenterialabreissungen nach Bauchkontusionen.) Kudlek.
73 Non-Cornified Superficial Epithelioma. (Der nicht verhornende Plattenepithelkrebs der äusseren Haut.) Veit.
74 *Various Forms of Puerperal Mastitis and Their Treatment. Feinen.
75 Roentgen and Clinical Study of Acromegaly. Vorschütz.
76 Fracture of Femur: 179 Cases. (Im Kölner Bürgerhospitale behandelte Oberschenkelbrüche, 1902-1906.) H. Luxembourg.

69. **Perforation of Empyema in the Orbit, a Typical Complication of Scarlet Fever.**—Preysing calls attention to a scarlatinal affection of which he has encountered seven cases, and he has learned of fourteen *more in* the experience of others. The ethmoidal cells and *frontal* sinus are the seat of a suppurative process, finally perforating into the orbit. The first sign is a swelling of the lids, generally in the inner angle.

and it is often mistaken for a purely orbital process In his first case the process had progressed to loss of vision, but afterward he learned to recognize it in its incipiency from the swollen lids and history of scarlet fever. In one case a child of 4 had typical scarlatinal necrosis of the temporal bone, and the swollen lids made him confident that the ethmoidal cells on that side were also the seat of a scarlatinal complication. The operation was very tedious on account of the smallness of the bones A frontal sinus had not yet developed, and the ethmoidal cells were found normal until he was convinced that he had been mistaken in his diagnosis, but at last, in the extreme posterior portion, he found the abscess and necrotic bone, and the child was promptly cured The difficulty in finding the focus in the bone in this early stage and the benefit of treatment were instructive in this case, and confirm the importance of the symptom of the inflammatory swelling of the lids The scarlet fever in all these cases had been unusually severe, generally with necrosis of bone on both sides and glandular abscess in the neck. The maxillary sinus was involved only in one case The finding of otitis media confirms the diagnosis, but the most striking symptom is the edema of the lids or a tumor like swelling at the inner angle. There is usually septic fever He believes that scarlet fever runs a severer course in children with enlarged tonsils, and he even suggests the possibility of a favorable influence on the course of scarlet fever from operative measures to remove obstruction in the upper air passages, especially when there is suppuration in a tonsil. He urges the importance of systematic cleansing of the nasal passages in the course of scarlet fever; all force must be avoided and he prefers salt solution for the purpose, very small amounts being instilled with a teaspoon or pipette. When this is done often enough the child is soon able to breathe through its nose freely, and the general condition is benefited to a surprising extent. He gives ten illustrations of some of the cases of perforation of a sinus-process into the orbit, showing the course of the affection and the aspect after recovery. From eight weeks to six months elapsed before the trouble was entirely cured, as the process was tedious and sequesters were liable to be expelled after weeks or months No disturbance in vision was noted in any case in which an operation was done early. In the absence of operative treatment the child is liable to fatal sepsis or meningitis, or at least total blindness on that side The affection was always unilateral in the cases on record.

74. **Puerperal Mastitis.**—Feinen advocates a minute incision with suction treatment for circumscribed mammary inflammation as having given the best results at Bardenheuer's clinic. For interstitial mastitis the breast is turned back, and the abscesses are incised and drained. The ten cases in which this was done were cured by this single and simple operation which yields cosmetically the best results, with merely a linear scar at the edge of the breast. This technic does not interfere with the functional capacity of the sound parts, and it removes only the really diseased tissue, while the absence of any scar in the gland tissue proper reduces the danger of ultimate cancer formation. In gangrenous mastitis, removal of the gangrenous patch seems to be all that is necessary, but puerperal tuberculous mastitis requires ablation of the entire breast.

Medizinische Klinik, Berlin.

September 27, IV, No 39, pp 1481 1520

77 *Suppurative Inflammation of Internal Ear (Eitrige Entzundungen des inneren Ohrs) W Uffenorde
78 *Non existence of "Spastic Obstipation" (Gibt es eine spastische Obstipation?) I Boas
79 Treatment of Anterior Urethritis S Katzenstein
80 Technic of Tonsillectomy (Abtragung der Rachenmandel mit dem bajonettformigen Adenotom) J Fein
81 Local Treatment of Diphtheria with Pyocyanase G. A. Bullmann
82 Marked Disinfecting Action of Solution of Chlorinated Soda (Unterchlorigsaures Natron als Desinfiziens) E Hartung
83 Diagnosis and Treatment of Pancreatitis Dreesmann Commenced in No 38
84 The *Spirochæta Pallida* in the Ultramicroscope (Nachweis der Spirochæte pallida im Dunkelfelde) V Mucha

77. **Suppurative Inflammation of the Internal Ear.**—Uffenorde states that labyrinth involvement was observed in forty cases of inflammation of the internal ear in his service in the last three years He analyzes the clinical manifestations, remarking that when only a few of the characteristic symptoms are present, differentiation is difficult, especially when some of the symptoms have to be elicited by changes in position, etc. In several cases nausea was the only symptom of suppuration in the internal ear, running an almost entirely latent course. Two of these patients were under treatment elsewhere for gastritis, but all stomach disturbances vanished after the operation on the ear. He mentions parenthetically that suppuration in the labyrinth may persist for years without healing, and without inducing fatal complications, which yet are liable at any moment

78. **Non-existence of Spastic Obstipation.**—Boas declares that he has never been able to discover a case of what others call "spastic obstipation," although he has been diligently seeking for it for fifteen years There is no defined form of obstipation which can be set apart by its subjective or objective symptoms as a special type. The symptoms of spasm of the colon may be observed in nervous excitable persons, although the bowels may be sound; also with intestinal disturbances with constipation or chronic diarrhea; with chronic catarrh of the large intestine or chronic sigmoiditis, and with cancer of the rectum He regards the spasm of the colon as a frequent attribute of general neurasthenia. It may occur at intervals, but it is not connected with any special type of stools or of habitual obstipation He remarks that he makes extensive use of oil enemas in cases of habitual obstipation in which relief is not obtained by purely dietetic measures, which he always tries first The efficacy of oil injections does not depend in any way on the nature of the obstipation or the shape of the stools. If the oil enemas fail, the obstipation is not of any special type, but merely of intense degree. It may be cured by indefinite continuance of the oil injections, in which case the amount of oil possibly can be gradually reduced. A large proportion of the habitually constipated are obliged to use oil permanently. In this case it is not a remedy, but merely a useful, indeed the most useful means of regulating bowel functioning A diet rich in cellulose seems to be indicated in almost all cases of habitual obstipation; belladonna is a valuable sedative in intestinal disturbances, but he denies that it has any curative action In conclusion, he states that with the exception of lead poisoning, the whole structure of the so called "spastic obstipation" is built on shifting sand.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena.

XIX, No 2, pp 187 380 Last indexed August 1, p. 448.

85 *Diagnosis, Surgical Treatment and Symptomatology of Tumors of the Cerebellum (Kleinhirngeschwulste) A Homburger and S Brodnitz
86 *A Typical Localization of Metastasis of Carcinoma of the Stomach (Typisch lokalisierte Metastase des Magencarcinoms) J Schnitzler
87 Experimental Research on Phloridzin Diabetes P. Esau.
88 The Opsonic Index in Diagnosis of Infectious Diseases (Opsoninuntersuchungen bei Infektionskrankheiten) F Rolly
89 Tumor on Frenum of Tongue in Infants (Die Rigasche Krankheit) C Schulz
90 *Operative Treatment of Epilepsy from Clinical and Anatomic Standpoint S Auerbach.
91 Sensibility of the Stomach (Magensensibilität) J E Schmidt.
92 Antitoxin Treatment of Tetanus J Jerie
93 Postoperative Injuries of the Vocal Cords After Removal of Goiter, and Their Ultimate Outcome (Postoperative Stimmlippenschadigungen nach Kropfoperationen und deren spateres Schicksal) H Leischner
94 Tests of Kidney Functioning in 23 Cases (Zur funktionellen Nierendiagnostik) P Clairmont and H v Haberer.
95 Results of Thyroidectomy (Folgen der Schilddrusenexstirpation) O Zietzschmann
96 Microscopic Metastasis in the Ovaries with Primary Carcinoma of the Stomach (Lediglich mikroskopisch nachweisbare metastatische Carcinomerkrankung der Ovarien bei primarem Magencarcinom) A Sitzenfrey

85. **Tumors in the Cerebellum.**—The clinical diagnosis in the four cases described was confirmed by the operation or autopsy. The pulse rate did not decline in any of these cases, and the vertigo was toward the affected side, contrary to what has been observed by others The ataxy of the left arm was instructive in one case, as also in another the degenerative hemiatrophy of the tongue. The regulation of the tonicity and coordination was deranged in all four cases, especially their interrelations. The sequence in which the symptoms develop is particularly important. This mode of evolution by recurring exacerbations —"pushes"—has not been sufficiently

studied, the authors remark, probably because the patients are rarely seen early enough. It is actually dramatic, they say, to be a spectator of one of these "pushes," and to observe how, after the first storm signal of increased pressure on the brain, symptom after symptom appears and gradually, in place of the vague outlines of general cerebral phenomena with perhaps only a slight suggestion of local coloring, a well-defined symptomatologic unity enters on the scene which renders an exact diagnosis and localization possible. In their cases the entire complex developed in a few days, and the evolution of the papillitis could be traced from day to day. The storm lasted six weeks, four weeks, ten and seven days, and the preliminary general brain phase corresponded to these proportions, being, respectively, three years, six, three and two months. Only a few days elapsed between the aggravation of the general symptoms and the appearance of local signs. Any increase in the general symptoms should therefore be regarded as a warning sign impelling to frequent careful examination, so that the moment when the local signs appear and become stable may be recognized, and the opportunity seized for early diagnosis as to the side affected and for prompt surgical intervention. It must be further borne in mind that the homolateral focal symptoms, marked at first, are liable to be masked by the development of contralateral disturbances. Close observation of the "pushes" is thus an extremely important element for the early diagnosis of cerebellar tumors, and the fact of their occurrence is a most peculiar feature of the course of this class of neoplasms.

86. **Typical Metastasis of Gastric Cancer.**—Schnitzler states that in eleven cases he has discovered a metastatic carcinoma in the anterior wall of the rectum. The patients had all applied on account of disturbances from the metastatic affection, and all were unaware of the existence of the primary cancer, which was in the stomach in ten and in the pancreas in one. Differentiation from primary rectal carcinoma depends mostly on the absence of ulceration, which is constant with the primary growths. With the metastatic, the mucosa is stretched tight and is immovable, and there is no admixture of blood with the stool unless from the primary cancer in the stomach. The shape of the tumor is also characteristic, extending abruptly into the lumen of the rectum, forming a step. It is probable that this rectal localization of the metastasis in men corresponds to the metastases in the ovaries in women. Extirpation of the rectal growth is inadvisable on account of its secondary nature. He gives an illustration of this typical metastasis, hoping thus to prevent mistaken diagnoses in future.

90. **Operative Treatment of Epilepsy.**—Auerbach surveys his experience with six cases of epilepsy in which he operated with the cure of four of the patients, permanent to date from eight to twenty-five months later. He regards increasing numbers of seizures in Jacksonian epilepsy, increase in the paralyses and signs of encroaching mental decline, as absolute indications for operative measures, especially for the young. After the age of forty he would not operate. In genuine epilepsy, surgical intervention should be considered more readily the more the phenomena are restricted to one side during or after the seizure, and especially with the discovery in the anamnesis of injury to the head from trauma or an encephalitic process. If there are no pronounced and constant symptoms and no unilateral phenomena, he would make an osteoplastic resection of 8/6 or 6/4 cm., remove a strip of bone the width of one's finger, or do craniotomy and excise the dura according to Friedrich's technic. In case of trauma, he would select the point of injury, but otherwise would operate on the right motor or frontotemporal region, sparing the functionally more important left hemisphere. He describes further indications for operation, and states his conviction that the motor domain is much more extensive than is indicated by the response to electric stimuli. After the operation the bromids should be kept up for a long time, with life-long abstinence from alcohol. The epilepsy generally begins in youth, and thus at a time when the regenerating power of the organism is at its height. It must also be borne in mind that if the operation merely prevents epileptic dementia, even without complete cure, this is a great gain.

Münchener medizinische Wochenschrift.

September 29, LV, No. 39, pp. 2025-2072.

97 *Tuberculin Reaction and the Nervous System. (Klinische Ueberempfindlichkeit.) E. Moro.
98 *Present Methods of Stimulating Diuresis. Romberg.
99 Differentiation of Tuberculous Pus with Millon's Reagent. (Eignet sich das Müllersche Verfahren zur Unterscheidung von akutem und tuberkulösem Eiter mittels Millon's Reagens?) Hosemann.
100 Tuberculosis Antibodies and Immunity. (Tuberkulose-Antikörper und Immunität.) M. Christian and S. Rosenblat.
101 Diagnostic Delimitation of Certain Forms of Idiocy. (Weitere Fälle von tuberöser Sklerose.) H. Vogt.
102 *Occurrence and Significance of Unilateral Higher Temperature in [illegible] (Halbseitig erhöhter Temperaturen bei [illegible]) H. Vogel.
103 Si[illegible] for Comparison. (Einfaches Vergleichsspektrokop.) K. Burker.
104 Intravenous and Subcutaneous Administration of Heart Remedies. (Intravenöse und subkutane Anwendung von Herzmitteln.) O. Hornung.
105 Gangrenous Tumor of the Leg in Natives of East Africa. (Das brandige Geschwür der unteren Extremität.) Lenz.

97. **Tuberculin Reaction and the Nervous System.**—This subject will also be discussed editorially in The Journal in the near future. Moro's assumption that the percutaneous tuberculin reaction is a late reflex, an angioneurotic inflammation, is confirmed by the observation of inflammation at a point where plain lanolin had been rubbed into the skin, no inflammation being observed at this point until after a tuberculin salve had been rubbed into the skin on another part of the body. In one case he rubbed the tuberculin salve in the center of a patch of scrofulous lichen. The specific reaction was followed by the complete retrogression of the lichen in 24 hours. Moro does not believe that the antibodies are materially concerned in this percutaneous reaction, citing as grounds for this view the negative reaction to the tuberculin test in advanced stages of tuberculosis and directly after measles, and in the course of prolonged tuberculin treatment; the flaring up of old points of reaction on repetition of the tuberculin test; the Koch focal reaction; the intensive and accelerated reaction on repeating a test; the secondary tuberculin reaction, and the long duration of incubation. In regard to this latter point he experimented with salve made with caterpillar juice and other irritants, with the same technic as for the percutaneous test, and found that the cutaneous reaction did not become manifest until after 10, 24 or even 48 hours.

98. **Diuretics.**—In the course of this study of modern methods of promoting diuresis, Romberg remarks that calomel and sodium salicylate have each a direct injurious influence on the kidneys. That induced by the latter is transient, but calomel in large doses may cause an actual nephritis. The slightest suspicion of a kidney affection contraindicates calomel. He never gives it unless sure of normal kidneys, especially in elderly persons. His clinical experience has shown that restriction of salt in tuberculous peritonitis has aided in reducing the ascites. The modification of osmosis mobilizes deposits and diuresis is promoted. The most effectual diuretic is dimethylxanthin* (theophyllin). Its injurious action on the stomach can be avoided by giving very small doses at first, on alternate days, with only two doses a day, or three or four doses with longer intervals, or it can be given by the rectum.

102. **Higher Temperature on Side of Lung Affection.**—Vogel gives a number of curves which show the marked difference in the temperature in the axilla on the side of an active process. Comparison with the other side shows the course of the affection and the unequal progress of the lesions when both sides are affected; it also reveals, further, when an apparently harmless "cold" has aggravated or aroused a dormant process.

Wiener klinische Wochenschrift.

September 24, XXI, No. 39, pp. 1347-1374.

106 *Treatment of Fractures and Dislocations. (Behandlung von Knochenbrüchen und Verrenkungen.) C. Ewald.
107 Treatment of Congenital Coxa Vara. O. v. Frisch.
108 Properties of Eosinophile Leucocyte Granula. (Zur Chemie der Zellgranula.) E. Petry.
109 Aplastic Anemia. A. Herz.
110 *Treatment of Chronic Constipation. V. Liebman.

106. **Treatment of Fractures and Dislocations.**—Ewald gives a number of illustrations showing defective healing under various methods of treating fractures, and describes some

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*Theobromin and theophyllin are both known chemically as dimethylxanthin. See New and Non-Official Remedies, p. 125, 127.

measures which contribute to better results. Among them is a support shaped like a small toboggan; the curving part fits over the leg in the immobilizing cast. Traction on the projecting long part permits ready rotation of the limb; if the long part projects downward, as the leg rests on it, automatic rotation results. He adds that as the muscles in the back are the strongest, the physician should utilize them in reducing a difficult dislocation or fracture, and he gives illustrations showing how this can be accomplished. For the hip joint, for example, the patient's leg passes over the physician's shoulder and is tied by the ankle to the leg of the table. The physician has it thus in his power by raising or lowering his shoulder or moving farther to the left or right to bring tremendous pressure to bear on the hip joint by thus utilizing the leverage of the powerful muscles in his own back.

110. **Treatment of Chronic Constipation.**—Liebmann has been examining all his patients with chronic constipation and has found evidences of slight ptosis of the intestine in a surprisingly large number of cases, even when there were no symptoms indicating ptosis except the tendency to constipation. The ptosis is liable to induce a tendency to kinking at some point, and the accumulation of masses of feces at this point drags the intestine still further down. He orders an abdominal bandage with a pad or a truss to raise and hold the intestine in its normal place and put an end to the kinking. The results were good in many instances. A number of patients who had been obliged to use laxatives for years found that defecation proceeded normally from the third or fourth day after putting on the band. Skiagrams showed that the transverse colon was displaced far down, and that the pad on the abdominal band restored it to place and held it there. The little difference of even 1 cm. was sufficient to restore normal bowel functioning. He assumes that if the stomach is displaced downward the transverse colon and sigmoid flexure are sure to be correspondingly displaced. He relates a few examples showing the great benefit from the pad treatment in these cases.

Zentralblatt für Chirurgie, Leipsic.

October 3, XXXV, No. 40, pp. 1169-1192.

111 Fixation of Wandering Kidney and Wandering Liver by Suturing Through Magnesium Plates. (Fixation der Wanderniere und Wanderleber mit Magnesiumplatten.) J. Gobiet.

Zentralblatt für Gynäkologie, Leipsic.

October 3, XXXII, No. 40, pp. 1297-1328.

112 *Danger with Placenta Prævia of Natural Straining to Aid Delivery, and Extraperitoneal Section of the Uterus as Means to Reduce It. (Gefahren der natürlichen Geburtsbestrebungen bei Placenta prævia und ihre Verminderung durch den extraperitonealen Uterusschnitt.) H. Sellheim.
113 A Lymph Node in the Cervical Mucosa. (Ein Lymphknötchen in der Schleimhaut der Portio vaginalis uteri.) A. Lesniowski.

112. **The Dangers of Natural Straining with Placenta Prævia.**—Sellheim calls attention to the natural efforts to aid delivery as the main danger for mother and child in case of placenta prævia, and urges that they should be prevented by prompt vaginal or the classical Cesarean section, or by the perfected extraperitoneal technic. In eight cases managed on these principles, as described in detail, both mother and child left the clinic in good condition with no fatalities. He says that every woman with hemorrhage and a certain diagnosis of placenta prævia should be treated at once with the extraperitoneal technic as long as the child is living and asepsis is insured. If the hemorrhage is not threatening and the child is non-viable, it is possible to wait and by combined version start spontaneous delivery, or the attempt can be made to reduce the size of the placenta attachment and await spontaneous delivery. In case of much hemorrhage, combined version should be done and the patient stimulated with every possible means to improve the general condition until delivery proceeds spontaneously. If the case is infected, the "uterus-wall-fistula" technic should be considered in case of a living child. If there is only suspicion of infection, he quarantines the patient in bed for twelve or twenty-four hours. In a delivery by the natural route, the body of the uterus is tamponed moderately, the cervix a little more firmly and the vagina very firmly, as soon as the slightest hemorrhage appears after the separation of the placenta.

Gazzetta degli Ospedali e delle Cliniche, Milan.

September 27, XXIX, No. 116, pp. 1225-1240.

114 *Treatment of Tetanus. F. Pancrazio.
115 *Scarlet Fever and Erysipelas. (Scarlatina ed eresipela.) G. Appiani.
116 *Infection by Way of Upper Air Passages and Digestive Tract. (Importanza delle prime vie aeree e digerenti nelle malattie infettive.) L. Chierici.
117 *Pseudophosphaturia as Sign of Debility. (La cosi detta fosfaturia come sintoma precoce di tubercolosi polmonare.) A. Campani.
118 Ocular Tuberculin Reaction. (Oftalmoreazione.) G. Giovannini.
119 *Parathyroid Treatment of Pregnancy Albuminuria and Eclampsia. (Albuminuria delle gravide curato con la paratiroidina.) G. Quadri.

114. **Serum Treatment of Tetanus.**—Pancrazio points out that while serotherapy of tetanus is founded on solid bases, yet the amount of toxin may vary within wide limits in individual cases, and the resistance to it may differ. It is of the greatest importance, therefore, to institute preventive treatment at the earliest possible moment. He calls attention to the frequent occurrence of severe pains in the back as the premonitory symptom of the onset of tetanus. In his eight cases, which he reports in detail, all the patients complained of this diffuse backache, generally as the first sign of trouble; in three patients it was the only clinical manifestation for several days; in others it preceded the trismus only by a few hours, and in one was not noted until after the full development of the tetanus. His experience confirms the efficacy of direct injection of antiserum into the spinal canal, repeating the injections if necessary, and supplementing them with intramuscular injection of the serum. In his two fatal cases the syndrome was not so severe apparently as in some of the others.

115. **Scarlet Fever and Erysipelas.**—Appiani describes two cases of scarlet fever in which erysipelas developed on the face during the early convalescence. The patients were a man of 28 and a woman of 45, and the apparently severe erysipelas ran an unusually mild course, with no chills, headache or fever—merely the local phenomena of severe facial erysipelas.

116. **The Upper Air Passages as Inviting Infections.**—Chierici presents a series of arguments and experiences demonstrating anew the importance of the upper air passages as the primary seat of the most varied affections, from consumption and typhoid to streptococcus and staphylococcus processes at remote points. He believes, however, that the normal organism has so many means of defense against infections that it can take care of germs entering the upper air passages and digestive tract if these passages are not allowed to get out of order, or, in case of trouble, if the natural defensive forces are reenforced. It is useless to try to destroy all the pathogenic germs—this is an unreliable ideal, he says. The physician's efforts should be devoted to popularizing the idea that the integrity of the upper air passages and of the digestive tract is the one indispensable element in the prophylaxis of many if not most of the infectious diseases and processes.

117. **Phosphaturia as Early Sign of Tuberculosis.**—Campani protests against the assumption of increased elimination of phosphoric acid in this condition—the trouble is merely that the urine is more alkaline and thus the earthy phosphates are precipitated more readily. It is a pseudophosphaturia, not a true one, and should properly be called hypoacidity of the urine. This condition may be observed in youths and men as the result of a sexual neurosis; the prostatic secretion mixing with the urine in unusually large proportions may render it alkaline, or the urine may become alkaline in consequence of dyspeptic disturbances or too sedentary life or excessive physical exertion. Persons with this hypoacid urine are pale and thin; the urinary syndrome is probably both cause and effect of the general debility. Administration of an acid will disguise this hypoacidity without actually removing it. The hypoacid urine is not a sign of tuberculosis, but merely of debility.

119. **Parathyroid Treatment of Eclampsia.**—Quadri adds another to the list of cases of eclampsia published by Italian clinicians in which benefit was derived from treatment with parathyroid extract.

Sei-i-kwai Medical Journal, Japan.

August, XXX, No. 8, pp. 315-324.

120 *Illness Caused by *Bacillus paratyphosus* (Type A) and Its Pathological Appearances. R. Kasuya.

120. Paratyphoid Infection (Type A).—Kasuya has encountered 17 cases of paratyphoid infection of Type B. The symptoms resemble those of typhoid fever, but less severe. No cases of the Type A infection have been observed in Japan until the case here reported, with autopsy findings, but two other cases have been reported since, in the last two or three months in Japan. He urges that paratyphoid infections should be put on the list of notifiable diseases, requiring the same prophylactic regulations as typhoid fever.

Hygiea, Stockholm.

August, LXX, No. 8, pp. 689-786.

121 Last Illness—Diabetes—of King Oscar II. (H. M. Konung Oscar II:'s sista sjukdom och död.) C. Flensburg.
122 *Polycythemia. S. A. Pfannenstill.
123 Infantile Affections Resulting from the Food. (Om späda barns uppfödning och af näringen beroende sjukdomar.) J. Ahlfors.
124 *Treatment of Sympathetic Ophthalmia with Sodium Salicylate. (Om den sympatiska ögoninflammationens behandling med salicylsyradt natron.) J. Widmark.
125 *Abnormal Renal Vessels and Hydronephrosis.* (De anormala njurkärlen och hydronefrosen.) G. Ekehorn.
126 *Pregnancy Pyelitis.* (Pyelitis under graviditet.) C. Wettergren.

122. Polycythemia.—Pfannenstill reviews the subject of polycythemia from various standpoints, evidently without personal experience. He goes over the same ground as Osler in his last article on the subject, of which a full summary was given in these columns Feb. 15, 1908, p. 565. Pfannenstill quotes Hayem to the effect that the future belongs to hematology.

124. Treatment of Sympathetic Ophthalmia with Sodium Salicylate.—On the basis of five cases of sympathetic ophthalmia treated with sodium salicylate, Widmark expatiates on the great efficacy of this treatment. His experience confirms the welve other similar cases previously published from this me eye clinic. He gave from 2 to 4 gm. (30 to 60 grains) f the sodium salicylate during the day, with atropin and hot fomentations. The first patient was a boy of 5 whose eye required enucleation from a traumatic injury. The sympathetic inflammation subsided entirely under this treatment and the child was dismissed in eight weeks with vision of 0.5. In the second case the sympathetic inflammation developed, with fever, five days after the enucleation of the injured eye. On recovery, the visual acuity was 0.8. The third patient was a young man with gonorrheal conjunctivitis with perforation f the cornea. The sympathetic ophthalmia took an unfavorle course, but even in this case the salicylate improved onditions remarkably in a daily dosage of from 8 to 9 gm. (120 to 135 grains), the inflammation completely subsiding, although cataract developed. As a rule, the sympathetic ophthalmia is not seen until it is well under way. In 3 of the 17 cases no benefit was observed from the salicylates, while 67 per cent. recovered under this treatment. In 5 cases the salicylate had been given for some time before the development of the sympathetic inflammation on account of iridocyclitis in the injured eye. This probably contributed to attenuate the intensity of the sympathetic process.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTESTINAL AUTOINTOXICATION. By A. Combe, M.D., Professor of Clinical Pediatry at the University of Lausanne (Switzerland) together with an Appendix on the Lactic Ferments with Particular Reference to Their Application in Intestinal Therapeutics, by Albert Fournier, Formerly Demonstrator at la Sorbonne, Paris. Authorized English Adaptation by William Gaynor States, M.D., Clinical Assistant in Rectal and Intestinal Diseases, New York Polyclinic. Cloth. Pp. 461, with illustrations. Price, $4.00. New York: Rebman Co., 1908.

MÉDICAMENTS MICROBIENS: BACTÉRIOTHÉRAPIE, VACCINATION, SÉROTHÉRAPIE. Par Metchnikoff, Sacquépée, Remlinger, Louis Martin Vaillard, Dopter, Besredka, Wassermann, Leber, Dujardin-Beaumetz, Salimbeni, Calmette: vol. xi, Bibliothéque de Thérapeutique publiée sous la direction de A. Gilbert et P. Carnot. Cloth. Pp. 400, with illustrations. Price, $1.60. Paris: Librairie J. B. Baillière et Fils, 1909.

THE TUBERCULOSIS INFIRMARY OF THE METROPOLITAN HOSPITAL, DEPARTMENT OF PUBLIC CHARITIES, NEW YORK CITY. By Walter Sands Mills, A.B., M.D., Chairman of the Tuberculosis Committee of the Medical Board. Paper. Pp. 63, with illustrations. New York: Martin B. Brown Co., 1908.

ATLAS DER SYPHILIS UND DER VENERISCHEN KRANKHEITEN mit eineum Grundriss der Pathologie und Therapie derselben. Von Hofrat Professor Dr. Franz Mracek in Wien. Cloth. Pp. 218, with illustrations. Price, $4.00. München: J. F. Lehmann's Verlag, 1908.

CLINICAL BACTERIOLOGY AND HEMATOLOGY. By W. D'Este Emery, M.D., B.Sc. Lond., Pathologist to the Children's Hospital, Paddington, Green. Third Edition. Cloth. Pp. 252, with illustrations. Price, $2.00. Philadelphia: P. Blakiston's Son & Co., 1908.

AMERICAN NATIONAL RED CROSS TEXT-BOOK ON FIRST AID AND RELIEF COLUMNS. By Major Charles Lynch, Medical Corps, United States Army. Cloth. Pp. 247, with illustrations. Price, $1.00. Philadelphia: P. Blakiston's Son & Co., 1908.

PROCEEDINGS OF THE AMERICAN SOCIETY FOR PSYCHICAL RESEARCH. Vol. II. Part 2. September, 1908. Paper. Pp. 378. Price, $2.50. Published by the Publication Committee of the Society, Tribune Building, New York.

TRANSACTIONS OF THE THIRTIETH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION, held at Montreal, Canada, May, 1908. Cloth. Pp. 421, with illustrations. New York: Published by the Association, 1908.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA, (State Board of Health) Montgomery, April, 1908. Cloth. Pp. 717, with illustrations. Montgomery: Brown Printing Co., 1908.

INSTINCT AND HEALTH. By Woods Hutchinson, A. M., M.D., Lecturer on Clinical Medicine, New York Polyclinic. Cloth. Pp. 334. Price, $1.20. New York: Dodd, Mead & Co., 1908.

ANGINA PECTORIS. Von Dr. Louis Peiser, Arzt am deutschen Hospital und deutschen Dispensary der Stadt New York. Paper. Pp. 106. Stuttgart: Verlag von Ferdinand Enke, 1908.

New Patents

Recent patents of interest to physicians:

899196. Sanitary protector. A. M. Aiken, Cleveland, Ohio.
899284. Manufacture of sulphuric acid and sodium sulp' U. F. Benker, Clichy, France.
899289. Apparatus for purifying and humidifying air. W. G. R. Braemer, Buffalo, N. Y.
899222. Obstetric forceps. H. E. Koch, Hartington, Nebr.
899225. Respiration apparatus. P. Lord, deceased, Worcester, Mass. M. V. Lord, administratrix.
899175. Speculum. W. Meyer, Chicago.
899434. Obstetric appliance. A. M. Reed, Washington, D. C.
899234. Massaging instrument. J. B. Wantz, Chicago.
899477. Dilator and applicator. W. E. Williams, Massillon, Ohio.
899279. Stretcher. H. Wilson and R. B. McFarland, Conneaut, Ohio.
39568. Design, Druggist's sign. R. A. Walter, New York.
899728. Impregnator. F. B. Graham, Garnett, Kans.
899875. Peptisating colloidal elements. H. Kuzel, Baden, near Vienna, Austria-Hungary.
12858. Reissue, Pasteurizing apparatus. L. S. Pfouts, Canton, Ohio.
900038. Treating extracts of quebracho. L. Pollak, Wilsdorf, near Bodenbach, Austria-Hungary.
899760. Capsule-placing device. J. P. Remington, Philadelphia.
899761. Capsule-filling mechanism. J. P. Remington, Philadelphia.
899815. Ausculta-phone. L. A. Townsend, Fort Dodge, Iowa.
12859. Reissue, Manipulator. J. W. Weber, Pittsburg, Pa.
900343. Surgical instrument. W. H. Barnes, Homewood, Miss.
900150. Catamenial appliance. D. S. Daudt, Plainfield, N. J.
900493. Appliance for treatment of rheumatism and other diseases. D. R. Dewey, Hamilton, Ont., Canada.
900168. Aseptic package for vaccine or virus. C. H. Higgins, Ottawa, Ont., Canada.
900373. Physicians' medicine case. J. O. Hunter and W. L. Hunter, Red Sulphur Springs, and W. A. Wykel, Hinton, W. Va.
900182. Syringe, K. L. Mayers, St. Louis.
900565. Vaginal syringe K. L. Mayers and M. B. Benas, St. Louis.
900580. Clinical and other thermometer. C. Nurnberg, New York.
900602. Massage-vibrator. W. G. Shelton, Chicago.
900138. Manufacture of arsenious oxid. U. Wedge, Ardmore, Pa.
900250. Rupture truss. A. Young, Laporte, Ind.
900835. Antiseptic organic silver compound. M. Dodsworth, Detroit.
901100. Syringe. A. H. C. Heitman, Detroit.
901009. Making chloracetic ether. G. Imbert, Nuremberg, Germany.
901177. Radioactive composition. R. Keil, Eisleben, Germany.
900868. Preparing concentrated hydrated magnesia. W. S. Morrison, San Francisco.
900957. Tablet machine. E. L. Richards, Philadelphia.
900961. Production of magnesium by electrolysis. G. O. Seward and F. von Kugelgen, Holcombs Rock, Va.
900962. Production of barium and barium alloys. G. O. Seward and F. von Kugelgen, Holcombs Rock, Va.
900892. Treating alkaline deposits for recovering soda, etc. J. C. W. Stanley, Los Angeles, Cal.
901708. Making camphor. J. Hertkorn, Berlin, Germany.
901709. Making iodin products. J. Hertkorn, Berlin, Germany.
901628. Surgical table. S. M. Langworthy, Cedar Rapids, Iowa.
901370. Device for raising invalids. L. Poppert, Milwaukee, Wis.
901742. Catamenial sack support. H. M. Richards, Joliet, Ill.
901937. Tablet forming machine. B. W. Scott, Detroit
901567. Device for extracting matter from inflamed tissues. W. G. Utschig, San Jose, Cal.

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Original Articles

THE VISCOSITY OF THE BLOOD;

ITS VALUE IN CLINICAL MEDICINE.

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The peripheral resistance to the circulation of the blood is important in general pathology. On the degree of this resistance depends the cardiac energy required to maintain the circulation, as well as the tension of the circulating fluid, with its far-reaching influences on nutrition. Two factors dominate and control this resistance in accordance with well recognized physical laws. These factors are (1) the changing caliber of the arterioles, (2) the chemico-physical characters of the blood. That the first is much the more important there can be no doubt, but that the second, as indicated by its viscosity is entitled to careful study will be evident on the slightest examination. Hurthle, for instance, calculated that the work done by the heart of the dog is more than four times as great as it would be if the blood vessels were filled with distilled water instead of blood. This difference is due to its viscosity, which is four and seven-tenths times that of water. In the human subject it is slightly greater, the average, according to Hirsch and Beck,[1] being 5.1.

There is not entire agreement among different observers as to the average normal viscosity of human blood. Determann[2] found it 4.7 in man and 4.5 in women, and Ewart[3] even less. Kottmann, on the other hand, makes it 5.11, agreeing with Hirsch and Beck. My own observations, covering a considerable number of cases make it a little less than five. Physiologic variations are constantly occurring, and their limits are not yet definitely established. It appears to me that variations below 4.5 and above 5.5, if persistent, may well be regarded as abnormal.

Under pathologic conditions the viscosity has been found to vary from three to nine times that of distilled water. Such variations in the internal friction and cohesion of the blood must have a tremendous effect on the physics of the circulation, while the diagnostic and therapeutic problems suggested are of the first importance.

The volume of any fluid which will pass through a capillary tube under given conditions is entirely dependent on its viscosity, and if the co-efficient of viscosity is known, can be calculated with mathematical exactness. Such a calculation, however, expressing the viscosity in absolute terms is obviously neither necessary nor practical for clinical medicine. As scientific physicians, however, we should understand the general principles on which these calculations are based, and these I will therefore briefly outline.

The factors which influence the rate of flow are the diameter and length of the capillary tube, the pressure applied to the fluid, and, finally, its viscosity. The smaller the diameter of the capillary tube the greater, relatively to the moving volume of fluid, becomes the surface in contact with the wall of the tube. The friction between these surfaces is one of the greatest obstacles to be overcome. Molecules of fluid in actual contact with the wall of the tube probably remain stationary, and the flow is entirely due to the intromolecular motion of the fluid, the rate of flow increasing toward the center of the moving column. Hence, the larger the lumen of the tube, the greater will be the velocity of the center of the moving stream, which means not only a greater absolute flow, but a greater flow relatively to the size of the tube. Thus the changing caliber of the arterioles influences the velocity and consequently the volume of blood flowing through them.

It is furthermore obvious that the longer the capillary tube of a given dimension the greater the friction. The length of the tube is, therefore, an important factor.

The rate of flow will also be directly influenced by its pressure. Under normal conditions blood flows through the arterioles under a pressure equal to that exerted by a column of mercury from 100 to 125 mm. in height. Other conditions remaining the same, the rate of flow will bear a certain definite ratio to the pressure.

Finally, the rate of flow of the fluid will be less the greater its viscosity. Viscosity is a physical property dependent on the freedom of motion between the molecules or particles which constitute the fluid. As in the case of blood, the fluid may hold in suspension solid particles (corpuscles) which will greatly influence the viscosity. Heubner calculated that two-thirds to three-fourths of the viscosity of the blood is due to the corpuscles. In some of the current literature the viscosity of the blood is expressed in absolute terms derived from calculations based on the data just given. Different mathematical formulas, based on Poiseule's law, have been used for this purpose.

As Ostwald's physico-chemical measurements form the basis of most of the work along this line, I will quote the one used by him.

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* Read in the Section on Practice of Medicine of the American Medical Association at the Fifty-ninth Annual Session, held at Chicago June 1908.

[1] Muenchener med Wchnschr 1900 xlvii 1685, Deutsches Arch f klin med Leipzig lxix 503 Id lxxii 560 Arch f exper Path u Pharmakol Leipzig liv 54 The following references may also be consulted Burton-Opitz R Am Med Phila 1900 vii 111 Jour Exp Med 1906 viii 59 and 240, Abstr Am Med N S i 42 Arch f d ges Physiol cxii 189

[2] Verhandl d Congr f innere Med Wiesb xx 476 Ztschr f klin Med lix 287

[3] Brit Med Jour Lond ii supplement p 10

[4] Ostwald Physico-chemical Measurements

The volume of liquid, v, flowing from a long capillary tube is $v— \frac{xpr\ t}{Scl'}$, where x is 3.1416, p the pressure, r the radius, l the length of the tube, all expressed in millimeters, and t, the time, expressed in seconds; c is a factor depending on the nature of the liquid and on the temperature, and is called the co-efficient of viscosity. It is consequently found by means of the equation, $c— \frac{xpr\ t}{Svl'}$, and is given in the absolute metric system if the pressure is expressed in ergs x cm.—3, the radius and length in cm., the volume in cc., and the time in seconds.

Such calculations as these are obviously too technical for clinical use, and are not at all necessary for the purposes of clinical medicine. What is needed is, first, some convenient uniform standard of comparison which will express the relative viscosity, and available at all times and places; and, second, a method for determining viscosity sufficiently simple in its character to make it practicable for routine examinations.

Such a standard is found in distilled water, and nearly all the work which has been done up to this time expresses the viscosity of the blood as so many times that of distilled water, even though giving along with it the results of the technical calculations above referred to which express it in absolute terms.

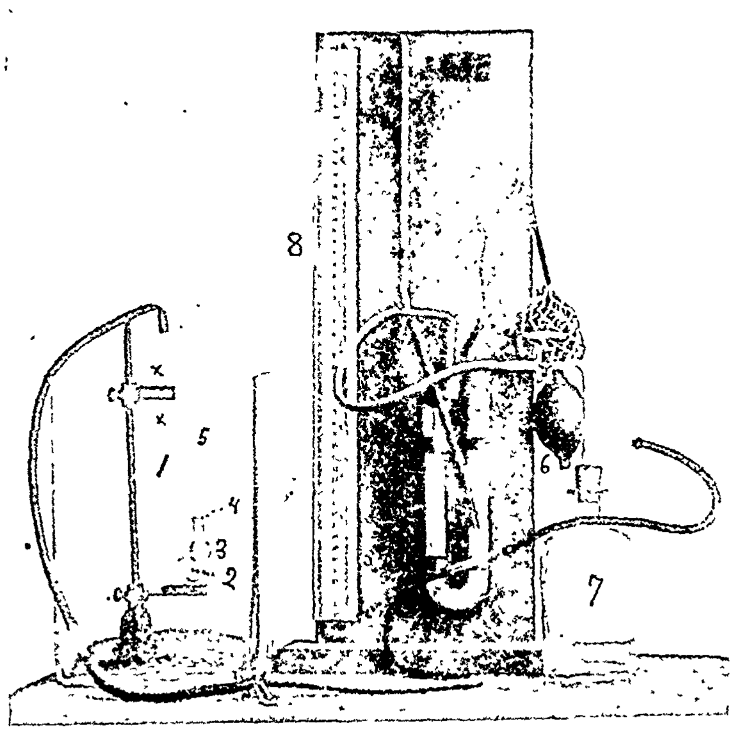

Fig. 1.—Hirsch and Beck's viscosity apparatus as modified by Determann, Bence and others.

The original investigations by Poiseuille, dealing with the viscosity of the blood were made with defibrinated blood. While having a scientific interest, this method involves such a wide departure from physiologic conditions as to be devoid of clinical interest. Huerthle was the first investigator to use the uncoagulated blood of the lower animal. To Hirsch and Beck, however, belong the credit of making a practical application of the data and methods of Huerthle and preceding investigators to the requirements of clinical medicine. Their apparatus which was subsequently modified by Determann, Bence[5] and others is shown in Figure 1. It consists of a glass jar 4x7 inches and 10 inches high, which contains the measuring apparatus (1) attached to the standard by a clamp. The purpose of this jar is to immerse the apparatus in water at 38 C. so that the temperature conditions will not change during the observation. The measuring apparatus consists of the bent tube (2), the lower portion of which, including the ampulla (3), is filled with blood at (4) by removing the closed tube (5). The blood is drawn by suction through the capillary tube to the upper X, and is forced back by a uniform pressure to the lower X, the time required for traveling this distance under given conditions of pressure, temperature, etc., constituting the basis for comparison in making the necessary calculations.

Instead of using water Hirsch and Beck used freshly distilled anilin oil, the viscosity of which is known, but this requires a second calculation to reduce it to the standard of distilled water. The pressure, which is positive and not negative, as in my own method and that of Hess, is produced by the bulb (6) acting through the flask (7) and is regulated by the manometer (8). A tube of calcium chlorid is interposed to dehydrate the air before it comes in contact with the blood. Their observations are made under a uniform pressure of 450 mm. of benzol equal to 400 of water. It will be noted that this pressure does not even distantly approximate the physiologic pressure maintained in the circulating mammalian blood vessels. This usually exceeds 100 mm. of mercury, which would be equivalent to about 1,350 mm. of water.

The apparatus and method is too cumbersome and technical to fulfill the requirements above indicated, and after a little experience with it I set about to simplify the method. Absolute scientific accuracy is not required in any clinical investigation of this sort. Determann admits a possible technical variation of two-tenths to five-tenths of a second with the same apparatus, same blood and the same operator. It is largely a question of accuracy of co-ordinating two distinct movements at the same instant of time, and it requires considerable practice to avoid an error of a considerable fraction of a second. Furthermore the physical condition of the blood and therefore its viscosity is undergoing constant fluctuations depending on the amount of food and liquid absorbed, perspiration, urinary secretions and probably many other factors, concerning some of which we know little or nothing. Approximate results easily and quickly attained were therefore the objects in view.

The principle of forcing the blood through a given length of a capillary tube under definite pressure and temperature conditions and comparing the time with that which it takes to force distilled water through the same tube under the same conditions appeared to be the only fundamental requisites. The exact size of the capillary tube is not important, and really varied considerably in the appliances used by Hirsch and Beck, Ewart, Determann and others. Poiseuille, for instance, used tubes varying from .139 to .659 mm. and Hirsch and Beck tubes varying from .25 to .35 mm.

As a result of my investigation I am now using the very simple appliance[6] shown in Fig. 2.

It consists of a capillary pipette (3) made from a piece of glass tubing with a lumen of 5 mm. One end is tapered (4) so that the rubber bulb (2) can be fitted over it easily. The other end is drawn out into a fine capillary tube, the exact size of which must be determined by experience. This is substantially the same as the capillary pipette used in opsonic work. A convenient length for the capillary portion of the tube is about six inches, and it should be made so that distilled water will pass through it under the negative pressure of the bulb in about five or six seconds. A blue pencil, or, much better, a fine ink mark is made at (5) just before the lumen of the capillary tube begins to enlarge, and each experiment terminates at the moment when the moving column reaches this mark.

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[5] Ztschr. f. klin. Med., Berl., lviii, 203.

[6] This is much simpler than the apparatus that I showed at the Chicago meeting, as I have been able to eliminate the T-shaped glass tube with rubber tubing and clamp, which makes it less cumbersome.

The first thing to do is to "standardize" the tube with distilled water which constitutes the unit of comparison. The rubber bulb (2) is taken between the thumb and index finger of the right hand and compressed until its inner surfaces are in contact. It is important that this technic should be accurately followed. If this is done, there will not be any substantial variation in the negative pressure of the same bulb in different experiments. If, however, the bulb is compressed flatly between, say, the palmar surfaces of the thumb and two fingers, the pressure will be increased from forty to fifty per cent. and the results entirely vitiated.

The precise negative pressure will vary with different bulbs. With the one that I am working with, which measures 1½ x 2½ inches and is taken from a 10 c.c. volumetric pipette in my clinical laboratory, it is equal, approximately, to 50 mm. of mercury. Within reasonable limits the exact pressure is unimportant, so that it is the same with the blood that it was with the distilled water.

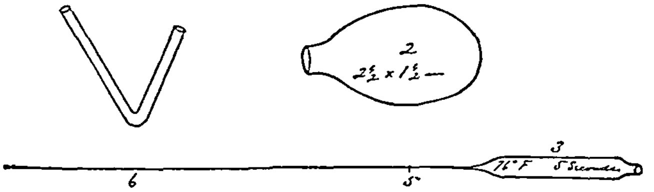

Fig. 2.—The author's viscosity apparatus.

This bulb thus compressed is fitted over the capillary pipette at (4) and the pressure released. Air flows into the capillary tube under a constant negative pressure. With a stop-watch in the other hand, the end of the pipette is immersed in distilled water contained in a watch crystal and the stop-watch started at the same instant. The watch is stopped when the column of water reaches the mark at (5). This is repeated three or four times, and if there is any variation the mean of the several observations is taken and a label attached to the tube showing the result and also the temperature of the room.

The temperature of the room is important because the viscosity falls about two per cent. with each degree centigrade of rise of temperature, and if the observation on the blood is made at a temperature substantially different from that in which it was standardized with distilled water, corresponding corrections must be made.

The capillary tube can be made so that it takes distilled water anywhere from three to six or seven seconds to reach the mark; about five or six seconds is the most convenient and practical time, and a little practice will enable one to make the pipette of the proper size. If it takes too long, break off a little of the pipette, if not long enough a new one must be made.

The clinical observation is made as follows: One arm of the V-shaped tube, made of glass tubing with a lumen of 1 1/2 mm. is partially filled with blood by holding it against the under surface of a drop exuding from the side of the tip of the finger, as I prefer, or the lobe of the ear. Five or six drops of blood are required. This tube is then held by an assistant or in a suitable clamp by the arm through which the blood has been collected, leaving the clean arm of the tube for observation. The bulb and capillary tube are arranged precisely as above described for the experiment with distilled water and the end of the capillary tube passed down the clean arm of the V-shaped tube until it is close to the surface of the specimen of blood. Then with the stop-watch in the other hand it is quickly plunged into the blood and the stop-watch started at the same instant, the watch being stopped, as before, when the moving column reaches the mark at (5). It is then simply a matter of dividing the time required by the blood to pass through the capillary tube, by the time required by the distilled water, which in the pipette illustrated was five seconds. If with this pipette it would take twenty-five seconds for the blood to reach the mark the viscosity of the blood would be just five.

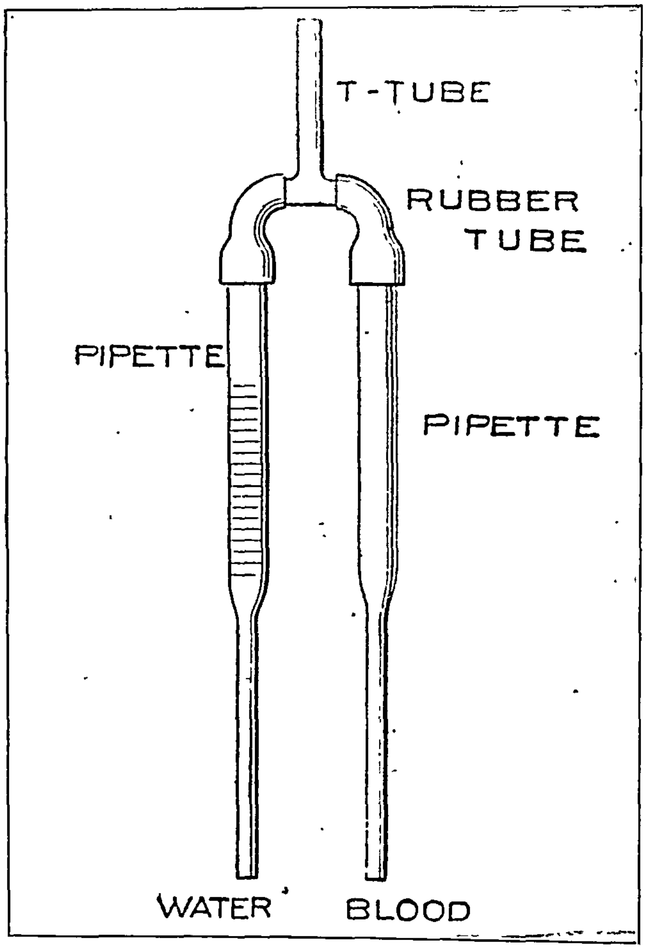

Fig. 3.—Hess' viscosity apparatus.

This observation can be made in less than three minutes, and is, in my opinion, sufficiently accurate to serve the purposes of clinical medicine.

Sometimes the blood coagulates so rapidly that only a single observation can be made. This can be obviated by placing a crystal of hirudin in the V-shaped tube, as recommended by Bence and Determann. The blood will then remain fluid for twenty or thirty minutes. The greatest objection that I have found to the use of hirudin is that it is very hygroscopic and must be kept hermetically sealed or in a chamber with a desiccator. Its use, however, is quite unobjectionable, as it does not change the viscosity in the least or even modify rouleaux formation, so that it is available for other purposes in which slow coagulation is desirable as well as the determination of viscosity.

The capillary tube is cleaned in the usual way, first by washing with distilled water then with alcohol and finally with ether, and drying with a current of air. Should the tube be spoiled, as often happens, it only costs a fraction of a cent and a few minutes' time to make another.

The apparatus of Hess (Fig. 3) represents another attempt at simplification. I have neither seen nor used it, but believe that my own is simpler and more practical. With Hess's apparatus distilled water must be used at the same time with the blood (which complicates the procedure) and the two are drawn through their respective capillary tubes presumably by a negative pressure, the source of which is not shown in the illustration.

CLINICAL APPLICATION.

As already indicated, the viscosity of the blood under normal conditions undergoes considerable fluctuations owing to a variety of causes, among which may be mentioned the ingestion of a large quantity of water or food. Heavy muscular work has also been found to increase viscosity. Possibly by the increased transudation of fluid through the skin the same effect results as follows a sweating by electric light and other hot baths.

These variations will be readily understood when the factors which influence viscosity are taken into account. Among these the percentage of blood corpuscles is perhaps the most important, which Heubner, as already stated, calculates is accountable for the greater part of its viscosity. It has been clearly shown, however, that there are constituents in the plasma which influence it very much. It is probably in some way connected with the fibrin, as it has been found that the viscosity and coagulability increase and diminish together within certain limits.

The inhalation of chloroform and ether has no effect on viscosity. Alcohol, on the contrary, immediately and greatly increases it. This has been found to be the case whether alcohol was introduced into the circulation intravenously or by injection either into the stomach or duodenum. This experimental fact is of considerable importance in the pathology of chronic alcoholism and may help to explain some of its phenomena. The immediate effect of hemorrhage is to greatly lower the viscosity of the blood. This effect is quite lasting, contrary to that of the intravenous infusion of normal saline solution which also lowers viscosity, the effect being very evanescent, however.

The diminished viscosity of the blood following venesection very probably has much to do with the well known therapeutic results in the way of relieving an embarrassed heart, etc., under certain pathologic conditions. There is no doubt whatever that it greatly lowers the resistance in the peripheral circulation, as well as the volume of the circulating fluid.

Asphyxia influences viscosity more promptly and more profoundly, perhaps, than any other known factor. This is true whether the asphyxia is local or general. In one experiment, for instance, Determann found that by placing a ligature around one arm for twenty minutes, with the production of marked local stasis, the viscosity of the blood drawn from a finger on that side was nearly twice as great as in blood from the other arm. It had increased from 4.63 to 8.83.

These are among the most important observations made along this line. Their influence in pathology is far reaching. They clearly show why the heart becomes embarrassed, and raises a doubt as to the exact importance of vaso-constriction under such conditions, although it is, of course, quite possible that this may occur also. The direct effect of CO_2 in increasing the viscosity has not only been experimentally demonstrated, but Bence has actually lowered it again by the inhalation of oxygen, an observation which is also of great importance.

The clinical application of these facts is probably not limited to the acute conditions of cardiac embarrassment in which life is endangered, and in which venesection and the inhalation of oxygen are clearly shown to be indicated, but probably extends to the subacute or chronic conditions of respiratory incapacity.

An interesting observation of Determann, confirmed by others, is that in vegetarians the viscosity was materially lower than in meat eaters. The average for vegetarians was 4.32 and for meat eaters 4.85. As might be expected, the viscosity of the blood is low in the anemias. In a fatal case of splenic anemia under my observation the viscosity was less than 3. The red corpuscles had dropped to about 200,000 before the patient died.

One of the important questions concerning viscosity is its relation to Bright's disease and especially to the cardiac hypertrophy found in these cases. The question is exceedingly complex and not nearly so easily solved as might at first sight appear. There seems to be little doubt that when the average case of Bright's disease presents itself for clinical observation to those who were studying the viscosity of the blood that the latter was nearly always normal or low, and this without very much reference to the blood pressure at the time. In my own experience the viscosity has usually been between three and four, but every case was more or less anemic. The observations of Bence were to the same effect.

Hirsch and Beck studied twenty-four cases which were divided into three groups as follows: The first group included acute and subacute parenchymatous cases in which the following viscosities occurred: 5.29, 2.75, 4.28, 3.81, 2.92. The second group, chronic parenchymatous nephritis, with secondary contractions, contained the following: 4.87, 4.24, 4.26, 4.79, 4.74, 3.05, 3.42, 2.52. The third group, chronic interstitial nephritis, with primary contractions, showed: 5.91, 4.70, 4.89, 9.21, 4.52. It is interesting to note that the lowest viscosity in the entire series, namely, the last case in the second group, with a viscosity of 2.42, had a blood pressure of 242 mm. In three of the twenty-four cases the viscosity was above the average normal standard adopted by Hirsch and Beck. It is distinctly stated that in neither of these three cases was there any marked hydremia.

Herein lies the explanation of the comparatively low viscosity found so constantly in Bright's disease, for we usually have, as was found in twenty-one out of twenty-four of these cases, a more or less marked anemia. This anemia means, of course, a reduction in the number of erythrocytes on which, as pointed out by Heubner,[7] the viscosity very largely depends.

Just what would be found in the pre-anemic stage of Bright's disease, if these cases could be observed at this time, is a question which is not yet settled, and in its very nature is almost impossible of solution. Few diseases are so insidious in their development, so completely masked in their early stages as this, and, as a rule, when first seen the blood has undergone serious changes and has become more or less hydremic. Ewart contends that the viscosity is high at this time and is one of the factors in the production of the cardiac hypertrophy. Hirsch and Beck, supported by Bence, controvert this view, and claim for reasons that do not appear to me entirely conclusive, that increased viscosity is not a factor in producing the cardiac hypertrophy. The difficulty lies in observing the cases early enough to determine the conditions during the early stages of the hypertrophy, which is usually well marked when the case is recognized.

As shown by Determann, Hirsch and Beck and Bence, those who eat considerable quantities of meat have a higher viscosity, and in at least one of the series of cases above quoted in which there was no anemia, the viscosity was extremely high. When the effect of a free meat diet is taken in connection with alcohol, together with the toxic conditions which we now believe to be antecedent to the fully developed picture of Bright's disease, high viscosity appears to be probable in the preliminary stages. Just in so far as it does exist must it be reckoned with as a factor, although very possibly a subordinate one, in increasing the work of the heart, the physiologic result of which is hypertrophy.

In the cases with arterial disease the high resistance in the peripheral circulation is much more important in increasing the work of the heart and with a very low viscosity may give us a high blood pressure, as in the case above quoted. It seems to me, therefore, that while the effect of the toxins on the heart muscle may reasonably be regarded as an excitant of over-action on the part of the heart and consequently of hypertrophy, as originally set forth by Bright, that it is strictly in accordance with clinical and scientific data to regard an increased peripheral resistance both from a diminished caliber of the blood vessels and an increased viscosity as important factors in the production of the cardiac hypertrophy of Bright's disease. Just how large a rôle increased viscosity plays and in what group of cases it is most conspicuous it is impossible at present to say.

Not very much can yet be said concerning the therapeutics of high viscosity. The iodids undoubtedly modify it in some way, and are therefore indicated in suitable cases in small doses. In cases of polycythemia the treatment is that of the blood condition. In several cases under my observation with viscosity sufficiently high to form important factors in circulatory disturbances this condition was present in a very marked degree. In one case with a red cell count of 7,250,000, the viscosity was very nearly seven. There was associated with the polycythmia, hyperchlorhydria and neurasthenic symptoms. During a month's treatment in the hospital, along with the general improvement, the red cell count gradually dropped to about 5,000,000 and the viscosity to 5.5.

The obscure modifications of the plasma which undoubtedly influence viscosity can only be treated in a general way by improved nutrition, elimination, etc., as their precise character is entirely unknown. The withdrawal of alcohol and a reduction or withdrawal of meat in the diet is clearly indicated in these cases. The importance of a free supply of oxygen is also clearly indicated by the experimental work with asphyxia and the inhalation of oxygen. Outdoor life, moderate exercise, the best of hygiene and everything that tends to uplift the physical condition of the patient should and usually will tend to lower excessively high viscosity and thus free the peripheral circulation.

A low viscosity usually means simple hydremia the therapeutic indications of which are plain enough, though not always effective.[8]

CONCLUSIONS.

1. The viscosity of the blood is an important physical property dependent on both the corpuscles and the plasma which furnishes a considerable part of the peripheral resistance to the circulation of the blood.

2. It undergoes considerable fluctuations as a result of physiologic changes connected with food, drink, exercise, etc.

3. Under pathologic conditions, the changes are much greater and the viscosity may be so much increased, as, for instance, when the blood is charged with CO_2 that the heart will be embarrassed in overcoming it.

4. The viscosity of the blood is actually low in the large majority of cases of chronic Bright's disease owing to existing hydremia, but there is probably an earlier stage with high viscosity.

5. It seems probable that an increased peripheral resistance in the circulation of the blood due, in part, to increased viscosity, is at least one of the factors in the production of the cardiac hypertrophy of Bright's disease.

6. Venesection greatly lowers the viscosity of the blood by withdrawing its solids and attracting the fluids from the surrounding tissues.

7. Alcohol introduced into the circulation greatly increases viscosity, and in this way interferes with the peripheral circulation and burdens the heart.

8. The approximate determination of the viscosity of the blood as a routine clinical procedure is desirable in nutritional and toxic disorders, and should be made by a method rapid and simple enough to be practicable for routine use.

9. Individual diseases do not change viscosity in any characteristic way except as they incidentally modify the blood.

10. The determination of viscosity should be made promptly before the corpuscles have time to settle, for obvious reasons. The use of hirudin, if it leads to considerable delay, is therefore objectionable unless the homogeneous mixture of plasma and corpuscles is again reproduced.

11. The viscosity of the blood is not altogether dependent on its specific gravity, for in fevers the former may be high and the latter very low.

ABSTRACT OF DISCUSSION.

Dr. Henry B. Hemenway, Evanston, Ill.: I believe the subject of Dr. McCaskey's paper to be one of the *most* important ever brought before the attention of the general practitioner. Dr. McCaskey, however, has kept the heart especially in view, whereas I have been looking especially at the general circulation. For example, pure water would flow for a long time and uninterrupted through a pipe of a certain size. If the water is impure, however—as, for example, sewage from the kitchen sink—the greater viscosity would clog the pipe. So, with increased viscosity of the blood there would be an obstruction to the circulation through the capillaries, and this tends to produce a closure in the capillaries. An interesting point is that, before the absolute closure, the arterial pressure is much greater than the venous pressure and there is the tendency for the serum to get into the tissues. This exuded fluid then gains an entrance back into the circulation by absorption through the small veins and lymphatics. This results in a gradual straining out of the organized elements of the blood and, in such cases, one would find an increasing anemia.

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[7] Arch. f. exper. Path. u. Pharmakol., Leipz., liv, 149; Id., liii, 280.

[8] Lommel, F.: Deutsches Arch. f. klin. Med., Leipz., 1904.

This increased viscosity of the blood, as well as sometimes an increased coagulability of the blood, is found in certain forms of Bright's disease and other conditions. Coagulability of the blood does not always accompany an increased viscosity of the blood. Yet there are times when the coagulability is accompanied by increased viscosity of the blood.

If the coagulability and the viscosity of the blood are increased at the same time, there is an inclination toward the production of a thrombosis, a thrombosis occurring in any portion of the body. So in this there is one of the most common conditions concerned in the production of thrombotic apoplexy. In the production of an attack of this form of apoplexy there is an increased viscosity, a slowing of blood current, with an increased coagulability of the blood which tends to produce thrombosis.

Dr. Nathan Rosewater, Cleveland: The viscosity of the blood has interested me for a long time. Viscosity of the blood is reduced by the iodids; this does not require very large doses, only from five to ten grains. The method Dr. McCaskey used I believe to be a good one; but would it not be practical to drop the blood directly from the pipette through alcohol or ether, noting the time, dropping it through a long column of the fluid?

Dr. J. F. Hultgen, Chicago: With regard to the relation between alcohol and the viscosity of the blood, Dr. McCaskey has omitted to give the dose administered, the kind of alcoholic beverage used, and as to whether there were any other morbid conditions coexisting at the time of alcohol ingestion. Moreover, he has not suggested how it does produce this increase in viscosity.

Dr. Louis Faugeres Bishop, New York: The difficulty with which the blood circulates has a distinct relation to the increased red-cell count. In my experience there is a large number of cases of circulatory troubles in which high tension exists, cases occurring in overnourished people suffering from high arterial tension; the red-blood count has been considerably above 5,000,000. I have learned to expect the red-cell count to be above the normal in a certain type of cases.

Again I could expect the condition to improve with a reduction in the red-cell count by suitable hygiene. This shows to me that the red-cell count has an important bearing in certain conditions.

Dr. G. W. McCaskey, Fort Wayne, Ind.: In regard to the point mentioned by Dr. Bishop, an estimation of the red-cell count is certainly important. I am glad to hear Dr. Bishop say that in some cases of polycythemia the red-cell count dropped with improved hygienic conditions, for this is in accord with my experience. I do not know how alcohol acts on the viscosity of the blood. Twenty minutes after its introduction into the duodenum of animals there occurs an increased viscosity. Just what the change is I do not know. The experimental dose is from 5 to 20 c.c. I believe that the iodid of potassium lowers the viscosity of the blood. In studies on the viscosity of the blood I believe that we have found a partial explanation of how the iodids act in chronic cardiovascular diseases. As the viscosity is lowered, peripheral resistance is diminished.

SOME PHYSIOLOGIC ASPECTS OF BLOOD-VESSEL SURGERY.*

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INTRODUCTION.

The subject of blood-vessel surgery is not new. For many years surgeons have occasionally been called on not only to repair traumatic or pathologic injuries in the walls of arteries and veins, but also to unite the ends of cut vessels. An excellent review of the literature has been given by Murphy.[1] Among recent investigators and successful operators in this field, two of the leaders whose methods and results are known to all are present to-day. I refer to Drs. J. B. Murphy and Rudolph Matas. Their success has been due primarily to their refined technic, which essentially comprises the admixture of judgment and skill together with the employment of instruments and materials in accordance with the structures operated on. Dr. Tuholske tells me of successful results he has obtained by suturing blood vessels. No doubt there are other surgeons present who could likewise demonstrate successful results. Since success in this field has been achieved by a number of gentlemen present, it is with some trepidation that I present my views.

METHOD.

The technic employed in my experiments is a modification of that developed by Dr. Carrel and myself. Essentially it is the same as that employed by previous successful investigators in that it consists of gentle handling of the vessels, with protection from drying, smooth approximation of the intimal surfaces and fixation by means of needles and thread in proportion to the size of the vessels.

After exposing the vessel, temporary occlusion is obtained by means of ordinary seraffine or bulldog forceps. By shielding the blades with muslin and forcibly compressing the springs to weaken them, the forceps may readily be adapted for use with liability of the vessel to injury reduced to a minimum. The edges to be sutured are cut smoothly with small sharp scissors. Excess of blood is removed by stripping the vessel between the fingers from the point of occlusion to the cut end and the blood absorbed with a soft dry sponge. The loose connective-tissue coat is then slightly stretched by grasping between the thumb and finger and snipped off even with the ends of the vessel. To protect the vessel from drying it is coated inside and out with paraffin oil. Two or more ligatures are then passed through corresponding points on the circumferential margins of the two ends of the vessel and tied, thus approximating the cut surfaces. The walls are then further united by a continuous suture entirely encircling the point of union, each stitch passing through the intima on either side a little way from the cut edge. The chief difference in the methods for arteries and veins is that in arteries the stitches are placed somewhat closer together than in veins. To facilitate handling and to aid in restraining coagulation, the threads are kept in paraffin oil. The needles employed on small and medium-sized vessels are No. 16 cambrics. The thread is one of the six component strands of Chinese twist silk. On restoring the circulation hemorrhage will occur from the needle-holes, but if the point of anastomosis be compressed for a minute or two, as a rule all hemorrhage ceases, due to the deposit of fibrin in the holes. This technic can no doubt be improved, but for our present purposes it has been entirely adequate.[2]

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] Murphy, J. B.: Resection of Arteries and Veins Injured in Continuity End-to-End Suture, Med. Rec., Jan. 16, 1897.

Transverse or lateral injuries in the walls of both arteries and veins are readily repaired by picking the vessel up by placing the finger beneath the point of injury and stitching the edges of the wound directly, slight traction by the finger being adequate to compress the walls and shut off the circulation.

RESULTS.

Immediately after the operation, in all cases very probably, more or less fibrin is deposited inside the vessel at the point of anastomosis. This may be due: (a) to incomplete approximation of the intimas; (b) to holes in the intima due to the needle punctures; and (c) to the presence of the suture, which is foreign material, inside the vessel. Conditions are favorable for clotting at the point, as it is probable that blood plates tend to accumulate on the roughened surfaces (Kemp); and as they are known to furnish a factor (thrombogen) necessary in the formation of fibrin ferment (thrombin); and since the injured vessel walls provide another factor (thrombokinase); and since calcium, the other factor necessary for the formation of the ferment, is present in the plasma, conditions are favorable for coagulation. The extent of the resulting obstruction to the circulation may vary from practically nothing to complete stoppage, depending on the degree of perfection of the operation.

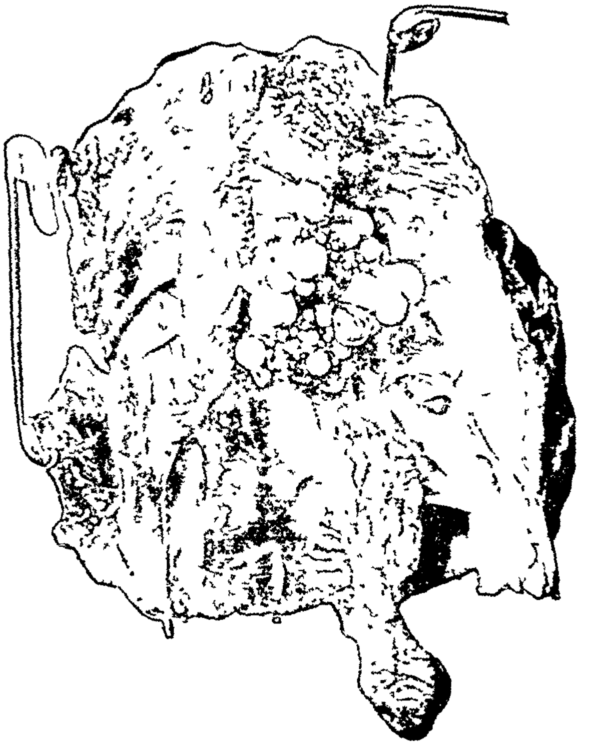

Fig 1—Ovary transplanted in fowl after about seven months Eggs from such hens have been hatched

Unless there be some gross fault, the usual result is that no appreciable interference to the circulation results, and the fibrin deposited disappears, presumably by becoming organized and absorbed. The percentage of successful results depends somewhat on the size of the vessels, very small vessels being less successfully united. Vessels having a diameter of 2 mm. or less are not so easily handled successfully as larger ones.

RESTORATION OF CONTINUITY OF DIVIDED BLOOD VESSELS.

If vessels be merely divided without great loss of substance the ends may be reunited directly, owing to their elasticity. Excessive traction on the anastomosis is to be avoided, as it renders success less certain. Traction may be lessened by suitable ligatures connecting the tissues surrounding the vessels. Where the gap is too large a variety of measures are at the disposal of the operator. Perhaps the most feasible is to remove a suitable segment of some non-essential vein and interpose it between the ends of the divided vessel. Or a segment of blood vessel from another animal of the same or of a different species may be employed. Or a segment of vessel previously removed and kept at a low temperature[3] or in a preserving solution—formaldehyd, for instance[4]—may

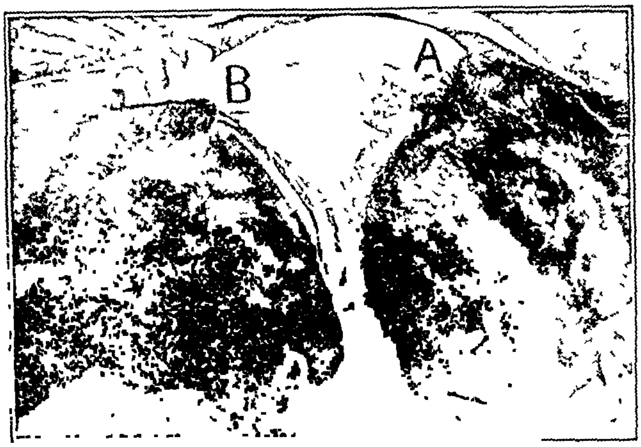

Fig 2—A, dog's head about one and one half hours after being transplanted on to B Reflex and voluntary movements good

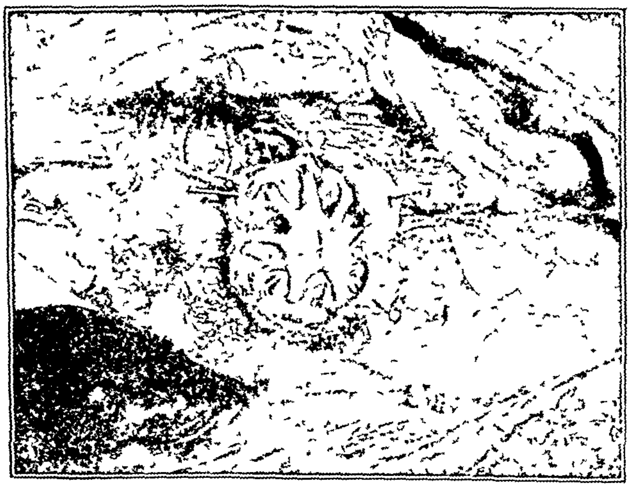

Fig 3—Kidney of male cat transplanted into a female cat for about one year

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[2] The Journal A. M. A., March 28, 1908, L, 1035

[3] Carrel, Alexis: Heterotransplantation of Blood Vessels Preserved in Cold Storage, Jour. Exper. Med., March 14, 1907, ix, 226 228

[4] Guthrie: Transplantation of Formaldehyd fixed Blood Vessels, Science, N. S., 1908, xxvii

be used with good result. Functionally, all of these methods have given excellent results. Even though enormous structural alterations may occur in such segments, no evidence of loss of adequate physical strength has been observed. As a rule, fibrous thickening of the wall occurs.

A number of factors must be taken into account in interpreting the structural changes. As these have been dealt with in a previous paper,[2] I shall not take them up in detail here.

TRANSPLANTATIONS OF ORGANS.

The old and well-known method of grafting tissues answers in the higher animals only for small masses of tissues. In the case of birds, even ovaries may thus be successfully transplanted[5] (Fig. 1), but in the case of large organs, or masses of tissues such as a limb, the method is inadequate.

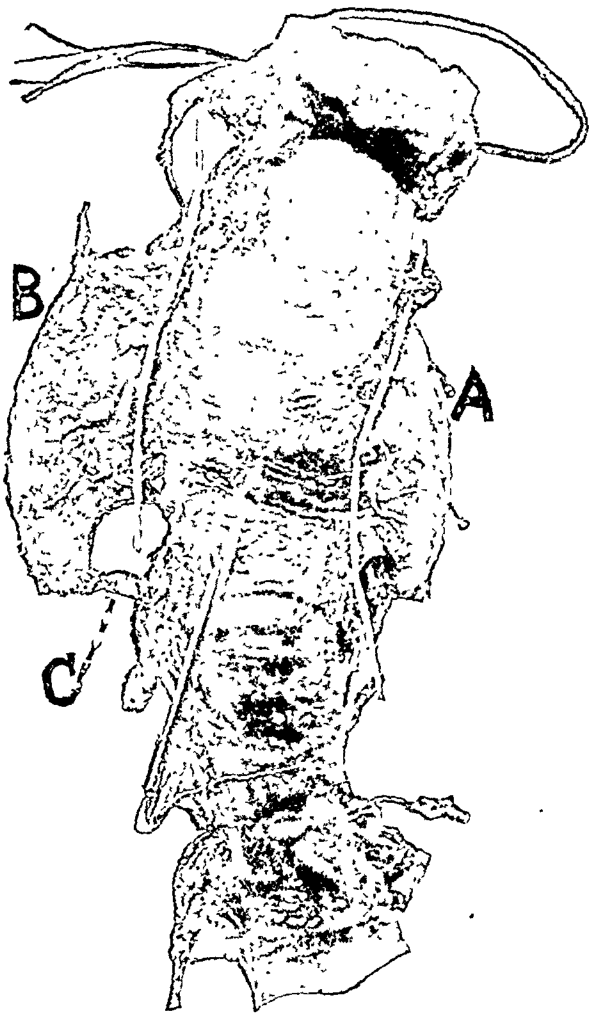

Fig. 4.—Enlargement after six days of normal thyroid gland (dog) following reversal of the circulation in right inferior thyroid vein. A, normal lobe; B, lobe on side operated on; C, anastomosis between the central end of the right common carotid artery and the peripheral end of the right inferior thyroid vein.

Since anastomosis of blood vessels has proved so simple a matter, I have employed it in studying the latter class of transplantations. Briefly, the results so far have demonstrated the feasibility of transplanting limbs. That the restored circulation is adequate is demonstrated by the absence of gangrene or other symptoms attributable to this factor both in the case of a hind leg replanted on a dog by Carrel and myself, and also by both fore and hind legs which I have transplanted from dogs to dogs of other breeds. In addition, I have transplanted dogs' heads with preservation of cerebral and bulbar function (Fig. 2). Even in a case in which the circulation was interrupted for twenty-nine minutes, good return of function was observed in the transplanted head. This demonstrated conclusively the adequacy of the restored circulation.

Since I have found no evidence of serious derangement of metabolism in dogs' thighs up to eleven days after transplantation, nor in a dog's fore leg six days after transplantation, and since there are no physiologic or other reasons known why such tissues as those found in the limb may not live and again function under such conditions, it seems justifiable to conclude that it is possible to transplant such a member with permanent success.

In the case of tissues less resistant to the interference to the circulation necessary during the period of the operation, our present knowledge is more limited owing to lack of exact data. Also in operations of such length that coagulation of the blood in the vessels of the part being transplanted is liable to occur, in which we have been in the habit of washing the blood out with some one of the many inappropriately termed "physiologic saline solutions," the extent of the injurious action of the solution is unknown. From the results on the kidneys, although my animals lived for several weeks, I came to the conclusion that permanent success was improbable owing to the latter factor. Even in the case of a kidney transplanted into a cat for more than a year, removal of the sound kidney was promptly followed by death of the animal. Examination showed the transplanted kidney to be structurally far from normal (Fig. 3). This may have been due, however, at least in part,

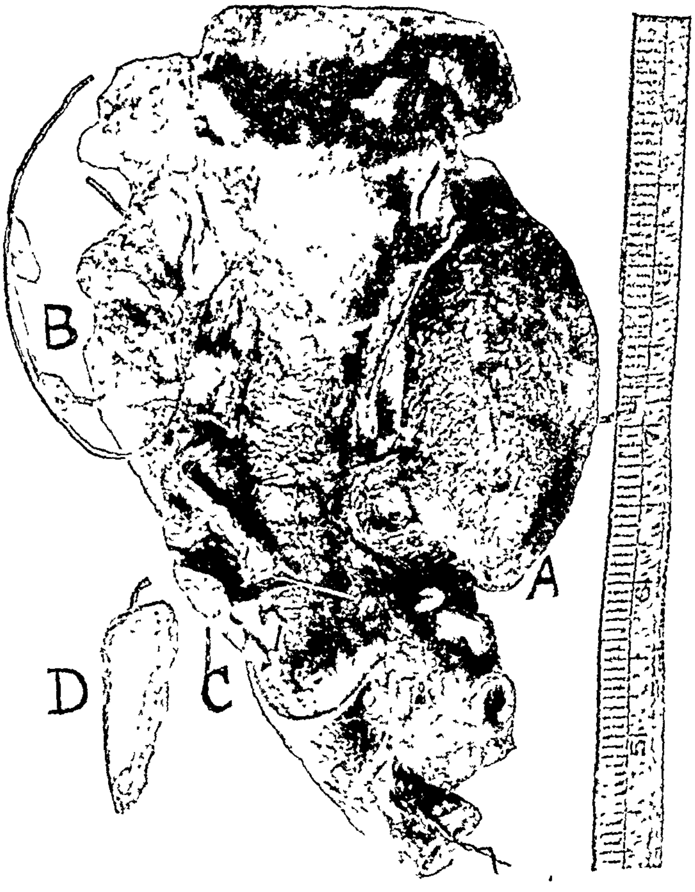

Fig. 5.—Decrease in size, after 11 months, of lobe of pathologic thyroid gland (goiter, dog) following reversal of the circulation in the right inferior thyroid vein. A, lobe on unoperated side; B, lobe on operated side; C, anastomosis between the central end of the right common carotid artery and the peripheral end of the right inferior thyroid vein.

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5. Guthrie, C. C.: Further Results of Transplantation of Ovaries in Chickens, Jour. Exper. Zool., 1908.

to other causes. A partial washing out of the blood will not eliminate this factor of toxicity of the solution, for when the solution arrives at the capillaries through which it must pass in order to displace the blood from the veins, it will be practically unmixed with blood, for the well-known reason that after the circulation is cut off the arteries tend to empty themselves. As in all probability it is in the capillaries that the greatest harm is done, the notion of judging partial perfusion by the degree of dilution of the blood as it escapes from the veins is theoretically incorrect.

It is now known that it is possible to transplant the legs or heads of dogs so quickly that perfusion is unnecessary, coagulation not occurring under forty minutes to one hour or more, and the period of occlusion requiring not over thirty minutes.

No doubt the time of occlusion in transplanting such organs as the kidneys may also be reduced so that danger of clotting will be eliminated. For the present, however, I am investigating the influence of various solutions used for perfusion, as well as the effect of clamping the arteries on the kidneys. To do this I clamp the aorta immediately above and below the origin of the renal arteries. When perfusion is desired, this is accomplished by means of a needle inserted into the segment of aorta between the clamps. By clamping in addition the renal artery on one side, the perfusion may be confined to one kidney while the other is simply cut off from the circulation. Thus far I have used cats, and the results on these animals are striking. When perfused with even relatively small quantities (5 to 15 c.c. per kidney) of 0.9 NaCl or Locke's or other so-called "physiologic salt solutions" for periods of only a few minutes, the total period of occlusion not exceeding ten to fifteen minutes, often death occurs within three to ten days with symptoms of a uremic toxemia and derangement of renal internal secretion, as evidenced by the rapid emaciation and enormous amounts of urea excreted.[6]

TABLE OF PERFUSION OF KIDNEYS.

No.	Date.	Aorta Occluded.	Perfusion Made.	Amount Perfused, c.c.	Aorta Released.	Period of Occlusion.	Period of Perfusion.	Remarks.	Perfused with	Death after
16	4, 24, '08	3:54	3:56	31	4:07	13' 0"	11' 0"	Both kidneys perfused.	Ringer's sol	3 days.
*17	4, 25, '08	1:54	1:56	25	2:07	13' 0"	11' 0'	Both kidneys perfused; nerves cut	Ringer's sol .	9 days.
18	4, 29, '08	4:15' 30"	4:17' 30"	21	4:26' 30"	9' 0"	7' 0"	Both kidneys perfused. . . .	Ringer's sol .	1 day.†
19	5, 7, '08	3:32	3:35	40	3:45	13' 0"	10' 0"	Right kidney *only*, perfused.	Ringer's sol .	3 days.
20	5, 7, '08	4:34	4:39' 30"	18	4:48	14' 0"	8' 30"	Both kidneys perfused.	Ringer's sol .	2 days.
21	5, 23, '08	2:35	2:38	11	2:50	15' 0"	12' 0"	Both kidneys perfused	Locke's sol. .	3 days.

* Analysis of urine: Amount, 30 c.c.; color, pale yellow, cloudy; sp. gr, 1.048; sugar, absent; proteids, trace; urea, 11.28 %; chlorids, large quantity; phosphates, large quantity; sulphates, large quantity; microscopic examination shows several casts; many spermatozoa.

† Clot in aorta.

RESULTS ON THE CIRCULATION.

It has been known for a very long time that the activities of the tissues of the body may be profoundly influenced by alterations of the circulation. This consists of decreasing or increasing the blood to a part. Decreasing the circulation brings about the condition termed "anemia;" increasing the circulation produces "hyperemia." Tying an artery will produce anemia; increasing the arterial flow to a part as by causing a local dilatation produces active hyperemia, while by hindering the venous return passive hyperemia will be produced. It is especially in connection with the latter condition, that is, hyperemia, that I desire to present very briefly a few experimental results.

The magnitude of the changes observed in normal tissues after production of a localized hyperemia is in direct proportion to the degree of hyperemia. By reversing the circulation in the peripheral end of one of the external jugular veins by anastomosing it with the central end of one of the common carotid arteries, no doubt a degree of passive hyperemia of the head is produced; yet no evidences of this are observed in the behavior of the animal, and no marked structural changes have been observed other than a thickening of the wall of the vein. The lack of more positive results is probably due to the free anastomosis between veins.

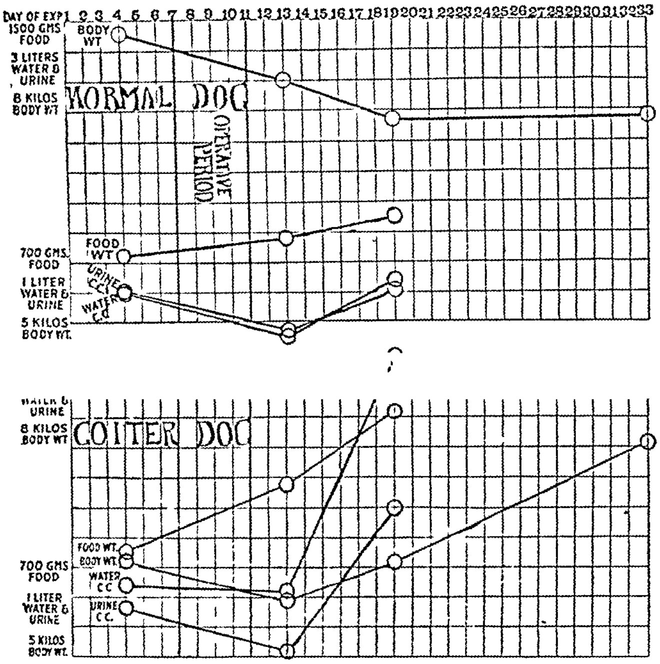

Fig 6.—Chart showing metabolism of dog before and after operation on goiter.

If, however, the circulation be similarly altered in a vein having a more "terminal" character, as in the inferior thyroid vein, the results are striking. This operation produces what may be termed a double hyperemia, as by eliminating the vein as a channel for return of venous blood, the ratio of venous to arterial cross sectional area of the gland is decreased; therefore, passive hyperemia results. But since arterial blood is forced into the gland through the vein, the proportion of arterial area to venous areas is further increased, and active hyperemia is also produced. Such an operation produces a maximum hyperemia, and the results on both normal and pathologic glands are very marked. In both cases a rapid transudation is seen to take place from the blood vessels, the glands becoming markedly edematous even in a few minutes. The swelling increases for about forty-eight hours, by which time, in pathologic glands, it may reach enormous proportions (Fig. 4). At the end of this period it begins to subside, so that at the end of about twelve days the gland is about the same size as at the time of operation. In the case of enlarged pathologic glands, from this time onward there is a continuation of decrease in size so that at the end of three weeks or a month the gland may not greatly exceed a normal gland in size (Fig. 5). The chief clinical difference in the reaction thus set up in a normal and pathologic gland is of degree. Also, it seems that the normal gland does not decrease to below its size at the time of operation.

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[6] Bradford: Proc. Royal Soc., London, 1892; Tigerstedt and Bergmann: Skandin. Arch. f. Physiol., 1898, viii, 223; Suner: Zentralbl. f. d. ges. Physiol. u. Path. d. Stoffwechs., 1907, 2, 3.

Ligation of the thyroid veins in pathologic glands is followed by a similar train of clinical phenomena to that described above, the difference again being one of degree.

The accompanying chart (Fig. 6) shows the result of a few observations on the gross metabolic processes in a dog before and after production of double hyperemia in one side of a bilaterally symmetrical goiter. Among these results are an increasing appetite and thirst and a corresponding increase in body weight. In behavior and physical condition the results have been equally striking, the animal having become lively and lost the appearance of a sick dog. These changes are no doubt due primarily to the increase in capillary pressure, this resulting in the passage of liquid from the blood into the extravascular spaces. Beyond this we enter the realm of speculation, and, since Dr. Tuholske will have something to say on this point to-morrow, I refrain from further discussion.

1806 Locust Street.

RESULTS OF THE TRANSPLANTATION OF BLOOD VESSELS, ORGANS AND LIMBS.*

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INTRODUCTION.

The idea of replacing diseased organs by sound ones, of putting back an amputated limb or even of grafting a new limb on a patient having undergone an amputation, is doubtless very old. The performance of such operations, however, was completely prevented by the lack of a method for uniting vessels, thus re-establishing a normal circulation through the transplanted structures. The feasibility of these grafts depended on the development of the technic.

The history of vascular surgery is too well known to need repetition. It recently reached the active stage of its development with the experiments of Murphy in Chicago and of Payr in Gratz. Murphy united the arteries by invagination and suture, while Payr used a magnesium tube. The remarkable experiments performed in 1903 by Hoepfner with the method of Payr gave an illustration of what could be obtained in vascular surgery by a proper method.

Finally a very simple method of circular suture was developed, which has given excellent results and has been extensively used in experimental work. It appears that vessels sutured under certain conditions heal very easily, and that no thrombosis occurs as long as the operation is aseptic and the union of the vascular ends accurate. The results are durable, the circulation being maintained through the anastomoses for more than a year in several cases, and in one instance for nearly three years. The examination of the anatomic results shows that the scar of the severed vessels is, in many cases, so small that, after a few months, it is hardly discernible. There is no modification of the caliber of the vessel at the level of the anastomoses. Slight faults of technic may lead to obliterative thrombosis, but when the vessels are of sufficient caliber, accidents seldom occur. Therefore, this method of anastomoses can be employed for more complicated operations, the transplantation of vessels, organs, anatomic regions, and limbs.

I. TRANSPLANTATION OF VESSELS.

A segment of an artery or vein can be transplanted between the cut ends of an artery or a vein, between two regions of the circulatory apparatus, and even between a serous cavity and a vessel. For instance, in some cases of ascites it would be useful to establish a permanent drainage of the peritoneal cavity by suturing a piece of a valvular vein between the peritoneum and a large vein.

Ruotte cut the saphenous vein and sutured its peripheral end to the peritoneum in a case of chronic ascites. The ascites disappeared.

The graft of a segment of vein between branches of the portal vein and the vena cava would act as a substitute for Talma's operation. However, the main application of the vascular transplantations will be, probably, the re-establishment of the circulation through an artery of which a segment has been accidentally or surgically destroyed. The ideal method would be to transplant between the cut ends of the artery a fresh segment of human artery. But this is not easily practical. Therefore, I attempted to determine whether or not a segment of vein, or a segment of artery preserved in cold storage or an artery from an animal of another species can be used safely.

The Transplantation of a Segment of Artery.—This was performed for the first time in 1896 by Jaboulay. He thought that this method could be applied to the treatment of aneurisms, but the anastomoses were imperfect and in every case thrombosis occurred. Nine years later Hoepfner performed successfully the transplantation of segments of arteries by using the method of Payr, and in a remarkable series of experiments demonstrated the possibility of transplanting arteries without the occurrence of thrombosis. In 1905, in Chicago, and afterward in New York, I applied to the transplantation of arteries the circular suture and found that this method gives excellent results, even when the vessels are of different caliber. The transplantation of a segment of artery on an artery of another animal of the same species is ordinarily successful when the vessels are of sufficient size and the anastomoses are performed correctly. After a few months the transplanted segment has absolutely the same appearance as the normal vessel. The histologic examination of transplanted arteries shows that the wall does not undergo marked modification. Wood has studied the vessels during the seventy days following the operation. The elastic and muscular fibers of the media remain normal. There is a little increase of the interstitial connective tissue. The intima is sometimes a little thickened.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

*Because of lack of space, the article is here abbreviated by the omission of all of the pictures and part of the text. The complete article appears in the Transactions of the Section and in the author's reprints.

The remote results are excellent. A dog, into whose aorta a segment of aorta from another dog had been transplanted, was living and in good health nine months after the operation, and the femoral pulse was normal. These results show that segments of fresh arteries transplanted from an animal on another animal of the same species remain practically normal from a physiologic and histologic standpoint.

Transplantation of Veins.—Unfortunately this operation would not be very practical on man, for it is difficult to get fresh pieces of human arteries. If the veins could act as a substitute for arteries, the problem of the treatment of large wounds or of resection of arteries would be solved, for it is always possible to get venous material from the patient himself. The first attempt of transplantation of a segment of jugular vein into the carotid artery of a dog was made by Gluck in 1898, but thrombosis occurred. In 1903 Exner performed six experiments of the same character, but in all cases thrombosis took place. He thought the failure was due to the poor nourishment of the transplanted vessels, resulting from disturbance of the vasa vasorum. In the same year Hoepfner, using the magnesium tubes of Payr, made ten transplantations of veins on arteries, with constant negative results.

In 1905 I succeeded with Guthrie in transplanting segments of jugular veins into the carotid artery and found that the vein quickly undergoes structural changes, consisting chiefly of the thickening of its wall. Stich and Makkas observed the same results. Watts succeeded also in transplanting segments of jugular on the carotid. I obtained excellent results in the transplantation of the vena cava into the aorta, operations which had been attempted by Goyanes in Spain. From all these experiments it is possible to know the anatomic evolution of a piece of vein transplanted on an artery.

The transplantation is often successful, but much less constantly successful than the transplantation of arteries on arteries. Thrombosis occurs more frequently, due, perhaps, to the difference of caliber of the vessels generally used, jugular vein and carotid artery. The approximation of the intimas is difficult, fibrin deposits itself on the foldings of the vein, and can produce, under certain conditions, obliterative thrombosis. When the artery and the vein are of the same caliber, the results are much better. I performed twice the transplantation of the vena cava into the aorta and in both cases the healing was perfect. It is probable that the results of the venous transplantations could be as good as those of the arterial transplantation if the caliber of the vessels were similar.

A segment of vein transplanted into an artery undergoes immediately very marked change. Its lumen is dilated, but its wall becomes thicker and stronger. No aneurism has ever been observed. It seems, on the contrary, that the vein adapts itself to its arterial functions, and reacts against the increased blood pressure by thickening its wall. The anatomic changes begin very soon after the operation. Fourteen days after the operation Guthrie and myself found the wall of the transplanted segment very much thickened. The thickening was produced mainly by an increase of the connective tissue of the adventitia and the interstitial tissue of the muscular coat. This very considerable thickening does not always happen.

The remote results are excellent. Eight months after the operation, I extirpated the carotid artery of a dog into which a segment of jugular had been transplanted. The lumen of the vein was dilated, but its wall was very thick and strong. There was no stenosis or dilatation of the anastomoses. The intima of the vein had in the neighborhood of the anastomoses a scar-like appearance.

These experiments show that a vein can adapt itself to the arterial functions. But it seems that the transplantation of veins on arteries is less safe than the transplantation of arteries on arteries.

Transplantation of Preserved Arteries.—Therefore, it would be very important to find a method of preserving tissues outside of the body for a few days or a few weeks. I attempted to use the influence of the cold for preserving the vessels. Therefore, segments of arteries were aseptically extirpated and preserved in cold storage slightly above the freezing point. Concerning the nature of the preservative fluid and the optimum temperature, no definite technic has yet been adopted.

The actual method consists of extirpating the vessels under rigid asepsis, of washing them in Locke's solution and of immediately placing them in a glass tube, which contains, on a small piece of absorbent cotton, a few drops of Locke's solution. The tube is sealed and put into an ice box, the temperature of which is constantly between 0 and 1 C. Some vessels have been preserved also in tubes filled with Locke's solution. The vessels undergo very little gross anatomic changes during the first weeks. Afterward they become less elastic. The periadventitial connective tissue acquires a soapy consistency. However, from a histologic standpoint, the muscle fibers remain ordinarily normal, even after one month.

Arterial segments were transplanted after having been kept in the refrigerator from one to thirty-five days. The occurrence of thrombosis was observed mainly at the beginning of the use of the method. Clinical and histological examinations of the results were made from five days to one year and a half after the operation. The gross anatomic changes of the vessels are ordinarily very slight. But the wall presents generally marked histologic lesions. These lesions seem to depend on the nature of the preservative used and the length of time spent in the refrigerator. A fragment of carotid artery transplanted into a dog after twenty-four hours of cold storage in salt solution, showed a complete destruction of the muscle elements five days after the operation. In another case very little change of the muscle fibers was observed after eighteen days.

The following observation shows that a segment of artery preserved in cold storage for ten days acts as a living vessel probably for an indefinite period of time. On Feb. 26, 1907, a segment of carotid was extirpated from the body of a dog thirty-five minutes after death and preserved in a tube of Locke's solution in cold storage. On March 6 this segment was transplanted into the left carotid artery of a dog. On May 3, 1907, we examined, with Dr. Crile, the neck of this dog, and found that the transplanted segment had the same appearance as the other parts of the artery. On May 15, 1908, the neck of the dog was opened again. The left carotid artery appeared to be entirely normal. By a careful dissection one of the anastomoses was exposed. There was no induration of the wall at its level. The only evidence of the suture was a very narrow dark line on the adventitia. The transplanted segment was altogether similar to the other parts of the carotid.

The carotid artery and the transplanted segment were extirpated. When the carotid was empty and retracted itself, the transplanted segment became very apparent, because it did not contract itself. It had evidently lost all its elasticity. *The intima was smooth and glistening.* The location of the anastomoses was marked merely by a slight difference in color. There was no evidence of scar, from a gross anatomic standpoint. The intima was thickened, and, in a point where the media was a little thinner, presented a patch of greater thickness. The cellular tissue of the adventitia was also increased. The media was very much modified. Its internal portion had undergone hyaline degeneration. The external part was composed of fibers, of which it was difficult to say if they were connective or muscular. The elastic framework had entirely disappeared. It must be noticed that in spite of the lack of elastic tissue, the vessel has not undergone any dilatation and was apparently normal. A few other animals into which segments of vessels preserved in cold storage were grafted demonstrate that the remote results of this operation may be excellent.

These observations show that a vessel transplanted after having been kept in cold storage for a few days or weeks can functionate normally for a long time. The anatomic results are excellent, for the vessel, in spite of deep histologic changes, is not a dead but a living structure.

Other methods of preservation of vessels have been tried, but with little success. I transplanted segments of arteries which had been *frozen for several days.* The immediate results were sometimes apparently excellent. But, ultimately, in all cases except one, obliteration, atrophy and absorption of the vessel occurred after a few days, weeks or months.

The transplantation of devitalized arteries has been attempted by Levin and Larkin in New York, but in almost every case thrombosis occurred. However, after the transplantation of a segment of aorta fixed in formalin into the aorta of a dog, excellent circulation was observed. Histologic examination ten days after the transplantation showed that the wall was composed of amorphous tissue in which the elastic framework was seen to be very well preserved. In another case of Levin and Larkin, twenty days after the operation, the wall of the vessel was completely amorphous and surrounded by dense connective tissue. A similar experiment has been performed in St. Louis by Guthrie, who obtained an excellent functional result, but no histologic examination of the vessel has yet been published.

I found also that it is possible to use peritoneum as a substitute for the arterial wall.

Transplantation of Arteries Between Animals of Different Species.—It is generally believed that a piece of tissue transplanted from one animal into another of different species undergoes cytolysis and disappears. It is not always true. There are several varieties of heteroplastic transplantations according to the zoologic distance which separates the host and the owner of the transplanted tissue. If a piece of tissue is transplanted from an animal to another and very different animal—from the mouse to the lizard, for instance—cytolysis occurs. But if the owner of the tissue and the host belong to more closely related zoologic sections, as, for instance, the guinea-pig and the rabbit, the graft does not undergo any cytolysis, but gradually disappears by atrophy. A few vessels are formed, but the vascularization is much less developed than it happens when the animals are of a same species. Nevertheless, as it has been shown by Cristiani, grafts between animals of different species, as guinea-pig and rabbit, can take. But these grafts are less vascularized than normally. These facts led me to attempt heteroplastic transplantation of blood vessels, with the view that between animals as closely related as cat and dog, or man and monkey, the vessel would not undergo any cytolysis, but would stand the serum of the other animal, and, perhaps, adapt itself to its new conditions of life.

Heteroplastic transplantations of vessels have been performed by Hoepfner in Berlin several years before my experiments. But the results were absolutely negative. Nevertheless, in December, 1906, I presented before the American Physiological Society a cat into which a segment of carotid artery of a dog had been grafted. The femoral pulse was normal. An exploratory laparotomy was performed afterward and the transplanted segment found almost normal. To-day, one year and seven months after the operation, the femoral pulse is still normal. At the same time, Stich and Makkas transplanted successfully segments of arteries from rabbit and cat to dog, and from man to dog. Afterward Guthrie successfully grafted onto a dog the arteries of a rabbit and cat.

The anatomic evolution of the vessels will be divided artificially into three periods: before the twentieth day, from the twentieth day to the seventieth day, and after the seventieth day. During the first two weeks the transplanted segment remained normal from a gross anatomic standpoint. The muscular fibers are normal. The interstitial connective tissue is slightly increased. Generally, the intima is free from a thrombus. In a case of transplantation of human vessel on dog, I found the intima completely covered by a thin layer of fibrin. Stich has observed the same disposition. This layer does not interfere with the circulation, but isolates the transplanted vessel from the blood. Wood has found that twenty days after the operation the lesions of the elastic fibers are already marked, while the muscle fibers are still normal.

The lesions are more marked on rabbits' than on cats' vessels, when transplanted on dogs. From the twentieth to the seventieth days, the vessel undergoes a more or less marked dilatation of its lumen. The lesions are characterized by a progressive and complete disappearance of the elastic framework, by a diminution in the number of the muscle fibers, an increase of the interstitial connective tissue, and a thickening of the intima. Nevertheless, the endothelium may persist. Fifty-two days after the operation Stich saw the endothelium covering the anastomosis.

In another case, where the wall was covered partially by a parietal thrombus, the intima was lined by endothelial cells. Wood found that seventy days after the operation all the elastic tissue had disappeared. Afterward the lesions seem to go on slowly. After six months I found the carotid artery of a dog, transplanted on a cat, very much dilated. The intima was smooth, and there was no evidence of the anastomoses. They could be approximately located only by the beginning of the dilatation. No elastic fibers could be detected. The media was deeply modified. Its internal part had in part undergone hyaline degeneration. The external part was composed of connective tissue and a few fibers, presenting the histologic reaction of muscle fibers. The adventitia was thickened.

This shows that the vessel does not undergo any cytolysis. Slowly the elastic fibers disappear, the lumen becomes dilated, the connective tissue increases, and the muscle fibers, which at first remain normal, diminish in number, and finally are almost completely resorbed. The vessel is progressively transformed into a tube formed almost exclusively of connective tissue. But this tube is made of living tissue and can act as an artery for one year and a half, at least.

II. THE TRANSPLANTATION OF ORGANS.

The transplantation with the re-establishment of the circulation by vascular anastomoses permits the graft of a whole organ, like the kidney or the spleen. As regards glands like the thyroid, parathyroid and ovaries, the action of which on the organism is efficient even when the volume of glandular tissue is small, the graft of pieces of tissues by simple implantation is sufficient.

In 1905 I succeeded with Guthrie in extirpating and replanting the thyroid gland with reversal of the circulation. Eleven days after the operation the wound was opened and the circulation of the gland was found going on. The animal is still alive and the anatomic examination of the gland will be made later.

The brilliant results obtained by Halsted in the transplantation of the parathyroid, and by Bush and Schmieden in the transplantation of the suprarenals, show that the graft of these small bodies by simple implantation is efficient. Nevertheless, it would be possible also to graft the parathyroids with immediate re-establishment of the circulation, by using the method of transplantation in mass.

I attempted to develop a method of transplantation in mass of the suprarenal glands on cats. A first cat was killed and both suprarenals extirpated with the corresponding segments of the aorta and vena cava. On a second cat the aorta and vena cava were transversely severed a few centimeters below the kidneys, the anatomic specimen was placed into the abdominal cavity, and the ends of the aortic and caval segment united to the ends of the aorta and vena cava. The circulation was immediately re-established into the suprarenals. Four experiments were performed. On two animals the glands were found degenerated or atrophied. Two others are still living, more than six months after the operation, and will be examined later. It is probable that the glands are resorbed.

The transplantation of the ovaries is so successful by simple implantation that a complicated vascular operation seems to be necessary. This question was almost completely settled several years ago, chiefly by the experiments of Knauer and also Foa.

In 1907 Guthrie obtained excellent results on chickens and observed offsprings from the grafted animals. The clinical applications of Knauer, experiments by Morris and many others are too well known to be discussed again.

The spleen of dogs is favorably disposed from an anatomic standpoint for transplantation. The operation is very simple. The spleen is extirpated, washed out with Locke's solution and immersed in a jar full of the same solution. Afterward the spleen is removed from the jar, placed in the abdominal cavity and the peripheral ends of the splenic vessels are united to the central ends. The nerves are sutured and organ suspended by suture of the gastrosplenic pedicles.

The operation is easy when the animal is of large size. Several months ago I performed this operation twice, only, on a medium-sized dog and also on a large dog. Both animals recovered uneventfully and are in good health.

The transplantation of the intestines consists of extirpating a loop of intestine from an animal and of substituting it for a loop of intestine of another animal. Anastomosis of the vessels is performed. The intestine almost immediately takes on its normal color, and strong peristaltic movements appear. Then the continuity of the gut is re-established by two intestinal anastomoses. I performed this operation only twice. In each case infection occurred. The postmortem examination showed gaseous cysts under the peritoneal coat of the transplanted loop of intestine. It is probable that during the period of anemia the microbes of the intestine penetrate the wall. In this case a successful transplantation of the intestine will be probably unrealizable, or, at least, exceedingly difficult.

In 1902 the first attempt of transplanting a kidney was made by Ullmann. The same year I performed several transplantations of the kidneys on dogs. Septic complications occurred in every case. In 1905 Floresco published a few cases of the transplantation of the kidney in the lumbar region. Guthrie and I examined for the first time the functions of a transplanted kidney and found that they are not very different from the normal.

The transplantation in mass of the kidneys consists of extirpating from a first animal both kidneys, their vessels and the corresponding segments of the aorta and vena cava, their nerves and nervous ganglia, their ureters and the corresponding part of the bladder; of placing this anatomic specimen into the abdominal cavity of a second animal whose normal kidneys have been previously resected and the aorta and vena cava cut transversely; and of suturing the vascular segments between the ends of the aorta and vena cava, and of grafting the flap of bladder onto the bladder of the host. In every case the re-establishment of the renal functions was observed. These functions were determined by the character of the urines and the general condition of the animals.

The secretion of urine may begin as soon as the arterial circulation is re-established. In several cases clear urine flowed from the ureters while the flap of bladder was being grafted onto the host. More often no urine was seen flowing from the ureters immediately after completion of the operation. But the secretion always began during the first twenty-four hours. In some cases the amount of urine during the first twenty-four hours was more than 100 c.c. However, a cat urinated only 25 c.c. during the first twenty-four hours; the second day the amount of urine passed was only 16 c.c.: this urine was highly concentrated and contained much urea. In all the experiments the urinary secretion went on as long as the animal lived. Every cat urinated abundantly every day, but the animals presented sooner or later some complication, which modified in some measure the renal functions.

As is to be expected after an operation as complex as the transplantation in mass, various accidents occurred; hydronephrosis, intestinal compression by peritoneal adhesions, volvulus, phlegmon, puerperal infection, compression of the renal veins by organized hematoma of the connective tissue, which were the direct or indirect causes of death in these animals. It is well known that several of the complications, especially the compression of the renal veins, produce grave renal lesions of their own.

In some cases there was a little albumin during the first days ranging from 0.50 to 0.25 for 1,000 c.c. In other cases the albumin disappeared about one week after the operation.

The general condition of the animal can be used, in some measure, to indicate the perfection of the urinary elimination. One cat was in excellent health until the twenty-ninth day after the operation. Then gastro-intestinal symptoms appeared, and death occurred on the thiry-first day after the operation.

In another case, on the eighteenth day after the transplantation albumin appeared in the urine and a direct examination of the kidneys was made to ascertain the cause. The general condition was little affected by the operation and the albumin disappeared on the twenty-first day, but reappeared again a little later. On the thirty-fifth day the animal was very weak and emaciated. She died on the thirty-sixth day of acute calcification of the arteries.

We can conclude from these results that the functions of the kidneys re-established themselves after the transplantation.

The histologic examination of the transplanted kidneys showed that the organs presented some lesions, very slight in some cases, and more marked in others. The lesions belonged to two classes: hydronephrosis and subacute interstitial nephritis. Nephritis is not a necessary complication of the transplantation, for it was completely absent in some cases. It is possibly due to secondary causes.

The transplantation in mass of the kidneys permits of an almost ideal reconstruction of the urinary apparatus after a double nephrectomy. However, it is a complex operation, and the animal is exposed to many complications. The method called "simple transplantation" exposes the kidney to ureteral or vascular troubles, but it is practically harmless for the animal itself. This operation consists simply of dissecting a kidney, cutting the renal vessels and ureter a few centimeters below the hilus, implanting the organ on the same, or another animal, and of anastomosing its vessels to the renal vessels of the host.

I performed the double nephrectomy and the replantation of one kidney in five dogs. The secretion of the urine remained normal as long as no ureteral complication occurred. The conditions of the kidneys were excellent. A little more than two months after the operation, the location of the anastomoses of the renal vein could not be detected. The anastomosis of the renal artery was seen as a small and indistinct line on the intima.

The remote results of this operation are excellent. On February 6 the left kidney of a middle-sized bitch was extirpated, perfused with Locke's solution and put into a jar of Locke's solution at the temperature of the laboratory. The ends of the vessel were prepared for anastomoses, and afterward the kidney was replaced into the abdominal cavity. The circulation was re-established after suture of the vessels and the ends of the ureter united. The animal made an uneventful recovery. Fifteen days afterward the right kidney was extirpated. The animal remained in perfect health. The urine did not contain any albumin. It is generally of low density. To-day the animal is in perfect condition.

This observation demonstrates definitely that an animal can live in normal condition after both kidneys have been extirpated and one replaced. It removes also, without need of further discussion, the objections of the experimenters who claim that the section of the renal nerves, the temporary suppression of the renal circulation, or the perfusion of the kidneys produce necessarily dangerous and even fatal lesions of this organ.

III. TRANSPLANTATION IN MASS OF THE AURICLE, THE EXTERNAL AUDITORY CANAL, PART OF THE SCALP, LYMPH GLANDS OF THE NECK AND PARTS OF THE COMMON CAROTID ARTERY AND EXTERNAL JUGULAR VEIN FROM A DOG TO ANOTHER DOG.

By using the method of transplantation in mass it becomes possible to perform the transplantation of a whole anatomic region, with its main artery and vein. The limits of the anatomic specimen must be approximately those of the field of distribution of the main artery. But, on account of the collateral circulation, it would be impossible to transplant a very much larger region. For instance, the whole scalp can probably be transplanted successfully if the vascular connections are re-established on one side only.

I succeeded in transplanting the auricle, the external auditory canal, part of the scalp, the lymph glands of the neck, and parts of the common carotid artery and external jugular vein from a dog to another dog.

The auricle and the transplanted tissues were in normal condition. The temperature of both auricles, normal and transplanted, were about the same. The transplanted ear was as thin and glossy as the normal one. Except for the difference of color, it could not have been seen that the ear did not belong to the dog.

IV. THE TRANSPLANTATION OF LIMBS.

The transplantation of a limb from one animal to another of the same species is a problem very much simpler than the transplantation of a gland. It presents some difficulties, merely from a surgical standpoint. The anatomic structures of a limb are resistant and do not undergo autolytic modification after a short time of anemia. Besides, it is well known, from a clinical standpoint, that the circulation of a limb can be stopped completely for several hours by an Esmarch bandage without further occurrence of any lesions or nervous troubles. It is permitted also to suppose that structures, such as skin, muscles, vessels, bones, etc., are not very sensitive to slight modifications in the composition of the serum, and that after transplantation the blood of their new owner would not be toxic for them. Besides, it is almost certain that the new limb would have no harmful influence on his host, as may happen after a transplantation of the kidneys. Therefore, there is apparently no reason why the leg or the arm of an animal or of a human being could not be transplanted successfully on another animal of the same species or another human being.

In April, 1907, I found that a thigh, extirpated from the fresh cadaver of a dog, and transplanted onto another dog, could begin to heal in a very satisfactory manner.

This case demonstrated that it is possible to reestablish the circulation into a transplanted thigh and to obtain cicatrization of the anatomic structures. The union of the vascular anastomoses was excellent and the circulation of the limb constantly normal. Therefore, it was probable that, by using a little better technic, definitive results could be obtained.

A few other operations were performed, but in every case breaking of the bone suture or infection occurred. Nevertheless, by using more careful asepsis in the transplantation of the leg from one fox terrier to another, the new leg united to its host by first intention.

This experiment is the first example of successful grafting of a new limb on an animal. It demonstrates that the leg, in spite of the change of owner, remains normal. After a short period of edema and of high temperature, due perhaps to secondary causes, the new leg assumed the same appearance as the normal one. The temperature of the new foot did not differ from that of the other posterior foot. The healing of the cutaneous incision occurred normally, and the appearance of the skin was the same above and below the circular incision—that is, on the normal and transplanted part of the limb. No trophic troubles occurred. The cicatrization of a small exploratory incision made on the transplanted foot became slightly infected. Nevertheless, it healed rapidly, and the cicatrization was so perfect that the scar was not discernible on the twenty-second day. The normal and new tibias were strongly united by a fibrous callus. The question of the regeneration of nerves, and of the re-establishment of the functions, has still to be studied.

V. CONCLUSIONS.

It is proved that the remote results of the transplantation of fresh vessels can be perfect, and that arteries, kept for several days or weeks outside of the body, can be transplanted successfully, and that after more than one year the results remain excellent. It has been shown, also, for the first time, that transplanted kidneys functionate, that an animal, having undergone a double nephrectomy and the transplantation of both kidneys from another animal, can live normally for a few weeks, and that an animal which has undergone a double nephrectomy and the graft of one of his own kidneys can recover completely and live in perfect health for eight months, at least. Finally, it has been demonstrated that a leg extirpated from a dog and substituted for the corresponding leg of another dog, heals normally.

Newspapers as a Guide to Science.—The *Lancet* quotes the following gem of exposition from the editor of an English newspaper that was endeavoring to explain to its readers the problems raised by Mr. Francis Darwin's address at the recent meeting of the British Association for the Advancement of Science (see editorial, THE JOURNAL, Sept. 26, 1908, p. 1086): "Here, again, we pause to inquire who and what are the somatists? They are those who believe in the inheritance of acquired characters. The designation, which is new, is rather farfetched, but has a certain applicability, soma being the juice of a plant offered in libation to a Hindu god to strengthen him in his fight with the demons. It is identified—and here its applicability comes in—with the invigorating and immortalizing principles in Nature."

THE STATISTICS OF ENDOANEURISMORRHAPHY, OR THE RADICAL CURE OF ANEURISM BY INTRASACCULAR SUTURE.

SUMMARY OF CASES REPORTED UP TO JUNE 1, 1908.[*]

RUDOLPH MATAS, M.D.
NEW ORLEANS.

In 1902 I reported to the American Surgical Association, at its meeting in Albany, the first five cases of aneurism treated by this method, which were then described for the first time. The first case dated as far back as March 30, 1888, a little more than twenty years ago. In the transactions of the same association for 1895 the list was increased to 24 operations performed by 15 different operators. At the fifty-seventh annual session of this association, held in Boston, June 1, 1906, 34 operations performed by this method by 21 American operators,[1] were reported, and now (June 3, 1908) I am able to present a total of 85 cases treated by 52 surgeons, of whom 49 are American and 3 foreign. Thus, within the space of six years, since the first systematic description of the method of intrasaccular suture, the list has increased from 5 to 85 observations—a most gratifying increase, when we consider the comparative rarity of surgical aneurism in civil life, and the fact that the method suggested was a radical departure from the classical and accepted methods of practice.

For the liberal recognition given by the profession to the suggestions which I have had to offer and the generous encouragement which I have received, I am duly grateful, and I avail myself of this opportunity to publicly acknowledge my indebtedness to the many correspondents, collaborators and colleagues whose valued contributions, friendly criticism and sympathetic commendation have alone made possible the compilation of the convincing mass of evidence which I have now the honor to submit to you. I fervently trust that whatever the future may have in store for the cure of aneurism, the final judgment may be that the fundamental ideas which underlie the method of treatment here advocated are sound and conducive to surgical progress. In the short time allowed for this discussion I shall not attempt to make any comparative statement of the relative merits of endoaneurismorrhaphy as contrasted with other methods of treating aneurism, or engage in any controversy in reply to criticisms or commentaries which have come from various sources, and which, whether favorable or otherwise, I appreciate with due deference, but can not now consider with propriety, as the limitations of time will only permit of the presentation of the facts, which I trust will speak for themselves.

SYNOPSIS.

Total number of cases (arteriovenous aneurism excluded)	85
Total number of operators	52
Typical operations	77
Atypical operations	8
American operators	49
Foreign operators	3

GEOGRAPHICAL DISTRIBUTION.

UNITED STATES AND CANADA.

State and City.	Operators and No. Cases.	Total.
Alabama:		
Birmingham	—George S. Brown, 1	1

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[*] Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[1] See, for references to this and previous contributions by the author, THE JOURNAL A. M. A., Sept. 29, 1906, xlvii, 990-933.

California:
San Francisco—Thos. W. Huntington, 1; Stanley Stillman, 1 (atypical)... 2
District of Columbia:
Washington—James F. Mitchell, 1; George T. Vaughan, 1 (atypical)....... 2
Georgia:
Atlanta—F. W. McRae, 1.
Savannah—Craig Barrow, 4; G. S. White, 2... 7
Illinois:
Chicago—C. E. Humiston, 1; Carl Beck, 1...... 2
Indiana:
Indianapolis—H. O. Pantzer, 1.............. 1
Kansas:
Jetmore—Anson B. Ingells, 2................ 2
Kentucky:
Lexington—W. O. Bullock, Jr., 4.
Lebanon—R. C. McChord, 1................ 5
Louisiana:
New Orleans—Matas, 8; Danna, 7; Stafford, 3; Gessner, 2; Parham, 1; Martin and Parham, 1 (atypical); Kohlman and Newman, 1; Perkins, 1; S. P. Delaup, 1 (atypical) 26
Massachusetts:
Boston—J. C. Munro, 2...................... 2
Mississippi:
Natchez—J. G. Lilly, 1 (atypical).......... 1
Missouri:
Kansas City—J. F. Binnie, 3; W. J. Frick, 1.. 4
North Carolina:
Wilmington—Thomas W. Green, 1............ 1
New York:
New York—Robert T. Morris, 1; Willy Meyer, 1; Robert Abbe, 2; F. H. Markoe, 1; W. Blake, 1................ 6
Pennsylvania:
Philadelphia—Frazier, 3; Gibbon, 2; Da Costa, 1; Stewart, 1; Van Lennep, 1.... 8
Rhode Island:
Providence—James W. Keefe, 1............ 1
Tennessee:
Memphis—M. Goltman, 2 2
Virginia:
Norfolk—Levi Old, 2; L. Brown, 1........... 3
Washington:
Tacoma—James R. Yocom, 1.
Puget Sound—D. N. Carpenter, 1............ 2
Canada:
Montreal—J. M. Elder, 1.................... 1

Total in United States and Canada.......79

Foreign.

Spain:
Saragossa—R. Lozano, 4..................... 4
Italy:
Naples—G. Del Conte, 1.
Venice—D. Giordano, 1 (atypical)............ 2

Total of foreign........................ 6

Grand Total 85

ANATOMIC DISTRIBUTION.

Typical and Atypical.

Abdominal aorta	2	External carotid	1
External iliac	1	Subclavian	1
Gluteal	1	Subclavio-axillary	2
Iliofemoral	5	Axillary	1
Femoral	18	Brachial	2
Popliteal	50		
Posterior tibial	1	Total	85

(Over 58 per cent. popliteal; over 21 per cent. femoral.)

TYPES OF ENDOANEURISMORRHAPHY.

Obliterative, Fifty-nine Cases.

Popliteal (4 atypical)	32	External iliac	1
Femoral (1 atypical)	12	Posterior tibial	1
Iliofemoral (2 atypical)	4	Gluteal	1
Abdominal aorta	2	External carotid	1
Subclavio-axillary	2	Subclavian	1
Brachial	2		

Restorative, Thirteen Cases.

Popliteal	8	Femoral	5

Reconstructive, Thirteen Cases.

Popliteal	10	Iliofemoral	1
Femoral	1	Axillary	1

		Per cent.
Total obliterative	59	69.3
Total reconstructive	13	15.4
Total restorative	13	15.4

Popliteal, Fifty Cases.

obliterative (typical), twenty-eight cases.

R. Matas	4	F. W. Parham	1
J. A. Danna	3	R. Abbe	1
W. O. Bullock, Jr	2	J. C. Da Costa	1
Craig Barrow	2	Randall Hunt	1
H. B. Gessner	2	C. E. Humiston	1
S. W. Stafford	2	T. W. Huntington	1
J. H. Gibbon	2	J. W. Keefe	1
George C. Miller	1	W. Blake	1
L. Lozano	2		

atypical cases, four.

S. Stillman	1	J. D. Lilly	1
S. P. Delaup	1	Carl Beck	1

popliteal, restorative, eight cases.

Hugo O. Pantzer	1	R. C. McChord	1
J. F. Binnie	1	Anson B. Ingells	1
C. H. Frazier	1	F. T. Markoe	1
W. Meyer	1	M. Goltman	1

popliteal, reconstructive, ten cases.

Craig Barrow	1	*I. Brown*	1
J. F. Binnie	2	J. R. Yocom	1
J. A. Danna	1	W. J. Frick	1
Robert Morris	1	F. T. Stewart	1
G A. Van *Lennep*	1		

results in popliteal group.

Deaths, 1 (tetanus, Stafford).
Gangrene, 2 (Stafford, Lozano, vein ligated).
Relapses, 3 (Morris, Danna, Binnie, all reconstructive operations).
Secondary Hemorrhage.—(Binnie's third case, six weeks after suture and four weeks after ligature of superficial femoral. Recovery after amputation).

Two obliterative operations (Matas and Craig Barrow) were performed after spontaneous gangrene of the foot had occurred; the operations were undertaken with the hope of arresting further progress of gangrene, by relieving tension in the popliteal space and thereby improving the chances of the collateral circulation. Recovery after amputation of leg in both instances.

Femoral Aneurism.

Typical, 17; atypical, 1—total, 18.

obliterative, eleven cases.

R. *Matas*	1	J. F. Mitchell	1
J. A. Danna	2	George S. Brown	1
W. O. Bullock	2	T. M. Green	1
C. H. Frazier	1	S. W. Stafford	1
D. N. Carpenter	1		

restorative, six cases (one atypical).

George R. White	2	J. M. Elder	1
Kohlman and Newman	1	G. Del *Conte* (atypical)	1
		M. Goltman	1

reconstructive, one case.

Craig Barrow 1

results in femoral group.

Death, 1 ....Stafford
Gangrene, 2 ....Stafford, Frazier
Secondary hemorrhage, 0.
Relapses, 0.

Iliofemoral Aneurism, Five Cases (Two Atypical).

obliterative, four cases (two atypical).

Matas, 1 (recovery).
Levi Old, 1 (*hemorrhage*, secondary ligature of iliac, gangrene, exhaustion, death).
Atypical, 2 cases.
G. T. Vaughan, 1 (ligature, recovery from operation; death in 4 *months from heart disease*).
D. Giordano, 1 (recovery).

reconstructive, one case.

Danna, 1 (relapse, rupture, death).

External Iliac.

Levi *Old*, 1, *obliterative* (death from pulmonary embolism).

Abdominal Aorta.

J. C. Munro, R. Lozano, 2, obliterative (death from shock, hemorrhage during operation).

Posterior Tibial.

W. M. Perkins, 1, obliterative (recovery).

Gluteal.

Robert Abbe, 1, obliterative (recovery).

External Carotid.

Floyd McRae, 1, obliterative (recovery).

Subclavian.

Martin and Parham, 1, atypical, obliterative (recovery).

Subclavio-Axillary.

J. C. Munro, R. Lozano, obliterative (recovery).

AXILLARY.

Anson B. Ingells, 1, reconstructive (recovery).

BRACHIAL.

Matas, 2, obliterative (recovery).

RESULTS.

Total, 86 cases; 78 recoveries and 8 postoperative deaths; secondary hemorrhages, 2; gangrene, 4; relapses, 4 in all in reconstructive cases).

DEATHS.

I. Obliterative Group (59 cases):	
Abdominal aortic (Lozano and Munro)	2
External iliac (Levi Old)	1
Iliofemoral (Levi Old)	1
Femoral (Stafford)	1
Popliteal (Stafford)	1
Total	6
II. Restorative (13 cases)	0
III. Reconstructive (13 cases) (Iliofemoral, Danna)	1
Total deaths	7

SECONDARY HEMORRHAGE.

I. Obliterative (59 cases)	2
Iliofemoral (Levi Old)	1
II. Restorative (13 cases)	0
III. Reconstructive (13 cases)	0
Popliteal (Binnie)	

GANGRENE OF PERIPHERAL PARTS.

I. Obliterative (59 cases)	4
Popliteal (Stafford, Lozano)	2
Femoral (Frazier)	1
Iliofemoral (Levi Old)	1
II. Restorative (13 cases)	0
III. Reconstructive (13 cases)	0

RELAPSES.

I. Obliterative (59 cases)	0
II. Restorative (13 cases)	0
III. Reconstructive (13 cases)	4
Popliteal (Morris)	1 (amputated; recovery).
Popliteal (Danna)	1 (cured by secondary obliterative).
Popliteal (Binnie)	1 (amputated; recovery).
Iliofemoral (Danna)	1 (ruptured; death).

COMMENTARIES.

Mortality.—To sum up the review of the mortality, if we eliminate the two aortic cases of Lozano and Munro, the popliteal of Stafford (tetanus); the femoral of Stafford (rupture of secondary aneurism, ligature of iliac, gangrene and sepsis), the external iliac of Levi Old (pulmonary embolism), five would be eliminated from the list, leaving two which can be directly charged to the operative procedure, or, at least, as direct postoperative sequences. The legitimate mortality, thus reduced from 7 to 2 deaths in 85 cases, would be equivalent to 2.3 per cent.; secondary hemorrhage, 2 in 85 cases, or 2.3 per cent.; gangrene, 4 in 85 cases, or 4.6 per cent. If we eliminate Lozano's and Stafford's popliteal cases, in which the vein was simultaneously injured and ligated; and Levi Old's iliofemoral, in which gangrene followed the secondary ligature of the external iliac, the percentage of gangrenes legitimately attributable to the intrasaccular operation would be one in 85, or 1.1 per cent.

Relapses.—These occurred only in the reconstructive operation; four in thirteen, or 28.9 per cent., or to the total, 4.7 per cent. It is to be noted that, in one of these cases the aneurism was cured permanently after the relapse by a secondary obliterative operation (popliteal, Danna), and from a previous knowledge of the conditions existing in the sac in two other cases, one popliteal (Morris) and one iliofemoral (Danna), there is every reason to believe that a similar cure could have been effected if an obliterative operation had been performed after the relapse had been recognized. In only one case (Binnie's popliteal) the local conditions would have been apparently unfavorable to any local intervention.

In closing this brief summary of the results thus far obtained by the method of endoaneurismorrhaphy, I would state that there are many important and hitherto undescribed details in the anatomy and morphology of aneurismal sacs, as well as their various modes of development, which have come to light since the operating surgeons who have adopted it have been compelled to examine the interior of the aneurismal cavities in order to determine the technic suited to each individual case. In fact, I believe that a new chapter in the study of aneurism has been added as a result of the opportunities offered by this method of procedure. The conclusions drawn from this study (which will be published later) will be of decided practical value in the application of the technic.

It would also appear that the fundamental principle on which this operation is based, viz., that the endothelial lining of the vascular system which is continued in the aneurismal sac, is analogous in its pathologic behavior *to the reactions and reparative processes* which occur in the endothelial surfaces of other serosæ, such as the peritoneum and the pleuræ, has been absolutely confirmed by the mass of evidence presented in these eighty-five operations.

Another fundamental conclusion arrived at after a study of the restorative and reconstructive cases is that the law of that great master of Pavia, Scarpa (1817), to the effect that "a complete and radical cure of aneurism can not be obtained in whatever part of the body this tumor is situated unless the ulcerated, lacerated or wounded artery from which the aneurism is derived is, by assistance of Nature or of Nature combined with Art, obliterated and converted into a perfectly solid ligamentous substance"—a dictum which for nearly a century has never been disproved—is now challenged by the experience of this method in its restorative and reconstructive types. The conclusion is likewise supported by modern experimental research, which has fully demonstrated the successful suture and resection of wounded arteries, with complete restoration of the lumen of the artery and the functional integrity of the sutured vessel. All honor to Murphy and Carrel and the great company of distinguished workers who have followed in their footsteps in demonstrating this fundamental fact of such vital importance to the progress of vascular surgery. However, let us not forget that we owe largely to the genius and sagacity of Scarpa one of the earliest and most convincing statements of the doctrine of the unity of the serosæ and of the endothelial surfaces in their specific reactions when subjected to irritation.

It is the tardy recognition of this great truth, in the operation here advocated, that has made the plastic obliteration of sutured aneurismal orifices and of aneurismal cavities as much a matter of common experience as the *adhesion and plastic union* of opposed serous surfaces when sutured, is the fundamental and unfailing experience of the abdominal surgeon.

There are also points in the technic that have been recently elaborated, and of these the mode of obliterating the sac in special cases, according to pathologic conditions or topographic or regional requirements, is important. One of the features of the technic of the greatest importance is that of prophylactic hemostasis, which must be made absolute if a deliberately planned operation is to be successfully carried out. In regard to preventive hemostasis, it must be stated that the problem increases in complexity and difficulty as the aneurism to be attacked approaches the root of the limbs and the neck where constriction is impracticable. This preliminary control of the circulation by obtaining a mastery of the great regional trunks in order to control not only the direct circulation in the aneurism but that which is supplied by the collateral vessels, still remains in the treatment of aneurisms by the intrasaccular methods, as good and thorough a test of the training and resources of a surgeon as it ever was in the days of the ligature and of extirpation.

To illustrate what is meant, I need only consider the difficulties in the way of completely controlling the circulation in high femoral, iliofemoral and iliac aneurisms in which the opening of the sac may be followed by the most formidable and even fatal hemorrhage if the inexperienced operator has trusted for prophylactic hemostasis to the compression or temporary ligation of the parent artery immediately above and below the sac. The cases of femoral aneurism reported by Frazier and Mitchell are good illustrations of the fallacy of such procedures and of the fact that it was only the resourcefulness and skill of these brilliant surgeons that averted a calamity that would have surely followed in less able hands. The difficulty in controlling the hemorrhage lies in the fact that numerous and complete collateral branches open into the parent trunk at its junction with the sac, or empty into the sac itself in the intermediary space between the inlet and the outlet of the aneurism. In femoral, iliofemoral and iliac aneurisms of large size and of the fusiform type the control of the parent trunk immediately above and below the sac is of no avail; to operate bloodlessly, the great vessel commanding the entire collateral supply of the limb must be compressed. In these cases it is only by direct compression and control of the common iliac through an abdominal incision that the collateral hemorrhage from the obturator, sciatic, pudic and gluteals can be controlled.

In a case of iliofemoral aneurism which recently came under my observation, even the compression of the common iliac and of the abdominal aorta at the bifurcation was not sufficient to secure an absolutely dry field. On opening the sac, which had apparently collapsed after direct compression of the common iliac, blood spurted out in a considerable stream, which was found to come from a well-developed epigastric. This could not be controlled by the direct compression of the common iliac or of the abdominal aorta. It was only by direct pressure on the bleeding orifice in the sac and its direct occlusion with a clamp that the bleeding was arrested and that the technic was carried out to completion with safety and deliberation. However, the temporary compression of the common iliac, which controls all the branches of collateral importance given by its internal branch is sufficient, as a rule, to secure a safe, if not an absolutely ischemic field in the majority of cases.

In the upper extremity, the hemostatic problem increases in gravity as we approach the axilla and the subclavian areas. In axillary aneurism, the third division of the subclavian should be controlled, while an elastic bandage applied to the arm as near as possible to the lower pole of the sac prevents the lower collaterals from feeding the aneurism after it is opened. The circulation in the right subclavian should be controlled by a preliminary compression of the innominate and, on the left side, by the first division of the subclavian.

In carotid aneurisms there are two problems to consider, the hemostatic problem and the secondary effects on the brain of an obliterative operation. In all these cases, especially in the pathologic aneurisms, and those which occur in all subjects above 40, the efficiency of the collateral circulation in nourishing the brain should be tested by temporary methods of occlusion, which must not damage the artery after remaining *in situ* over 48 hours while the patient's cerebral circulation is kept under observation. Here Dr. Halsted's ingenious aluminum bands, Crile's or other clamps, or the temporary protected ligatures of Jordan and Doberauer may be applied with advantage. The danger of embolism following the restoration of the circulation after the application of these tests is to be especially feared in cases of carotid aneurism. It is a question that is yet undecided whether it is not the better plan to limit the temporary occlusion to the internal carotid above the bifurcation and beyond the sac so that while the collateral circulation through the circle of Willis is being tested, the circulation in the aneurism itself may not be interfered with sufficiently to favor the liberation of an embolus, should the release of the constriction become necessary.[2] I have recently found that with a simple band made of strands of silver wire, gradual or total compression can be applied to the carotid or any other vessel by using a minute metal clip which holds the wires together in parallel rolls and adjusts the compression very easily to any desired degree. The great desideratum in every case is to apply a device which will control the circulation in the vessel absolutely, without damaging the internal tunics and which can be removed at any time within the test period (forty-eight hours) should danger symptoms appear in the brain, or in the peripheral parts, when aneurisms in the limbs are being considered. This is well accomplished by Halsted's bands when applied as a means of partial or total occlusion. But the expertness required in properly adjusting and rolling them around the artery, or unrolling them when this may be required, without damage to the vessel, make it desirable that a simpler means of carrying out Dr. Halsted's admirable principles be adopted.

In conclusion, our experience demonstrates that in all *sacciform* aneurisms with a single orifice of communication, the closure of this orifice by suture, without interfering with the lumen of the artery or its blood-carrying function, should be regarded as an obligate part of the operation. The indications, however, for the reconstructive operation in *fusiform* aneurisms with separate orifices of entrance and exit, must still be considered *sub judice*.

When is the reconstructive operation or arterioplasty in an aneurismal sac to be regarded as necessary or justifiable?

Without attempting to discuss with Binnie the special types of fusiform aneurism in which the reconstruction of an artery is more or less indicated, I will simply state that in the large majority of the reported cases of aneurism of the extremities, and especially of the popliteal and femoral (which furnish the most crucial test of the efficiency and safety of any radical method) the simple obliterative procedure proved thoroughly satisfactory in accomplishing its purpose without interfering with the vitality of the distal parts.

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[2] The value of the *temporary* occlusion of the common or internal carotid for thirty-six or forty-eight hours, as a preliminary test of the competence of the cerebral circulation prior to the permanent occlusion or extirpation of these vessels, is based on the fact that cerebral disturbances occur, as a rule, *immediately* or a few hours after the carotid circuit has been interrupted. Usually, characteristic or premonitory cerebral disturbances appear within the first twelve or thirty-six hours, often *immediately* after the ligation. There are exceptional cases, however, in which postoperative hemiplegia and progressive signs of softening have appeared from one to three weeks after the ligation of the common carotid. These late postoperative brain complications are more likely to occur in suppurating or septic cases as the result of thrombosis or embolism. They were frequent in the pre antiseptic period. Thus the patient on whom the first ligation of the common carotid for aneurism of this vessel (1805) was performed by Sir Astley Cooper, succumbed on the twenty-first day after the operation in a state of coma preceded by hemiplegia.

The evidence which has accumulated and which has been gathered in these reports, is sufficient to prove that the obliterative operation accomplishes the cure of the aneurism with less risk to the distal parts than either the ligature or the method of extirpation. *This would now appear to be a proved clinical fact.* The conditions which must determine in any given instance whether a reconstructive operation is indicated or an obliterative operation can be performed with absolute safety or not, will never be answered satisfactorily until an unerring clinical test of the adequacy of the collateral circulation after the preliminary compression of the main trunk which feeds the aneurism, will be at our command. The method of determining the peripheral blood pressure in the very tips of the extremities recently devised by the Russian surgeon, Korotkow, as the result of his experience with arteriovenous aneurisms in the Russo-Japanese war, and applied successfully by him, Petrov and v. Oppel,[3] may prove the final solution of the problem.

If the peripheral blood pressure is shown by the manometer (a modified Gaertner's tonometer) to be more or less sustained after the compression of the main trunk above the aneurism, then the obliterative operation may be safely applied. If, on the other hand, the blood pressure falls to zero, it is evident that the collateral circulation is inadequate and that no chance should be taken with the obliterative operation or with any procedure whatever (ligature, extirpation, etc.) which would permanently occlude the parent artery. In these rare cases (as a rule, aged or advanced arteriosclerotic subjects) the "reconstruction" of the artery is indicated, if only as a provisional measure. If this is impracticable, it may be the safer plan to limit the intervention to a *partial* occlusion of the main trunk with a constricting band on the proximal side, close to the aneurism, by the method suggested by Dr. Halsted, trusting that when obliteration finally takes place a collateral circulation may be developed sufficiently to preserve the vitality of the distal parts.

The objection to this plan is that, in advanced arteriosclerotic subjects, the collaterals do not always develop, for obvious reasons; that a thrombus may form at the seat of constriction; and again, in other cases, that the operation may fail to cure owing to the persistence of the circulation in the sac. Furthermore, as in the case of the ligature, the persistence of the tumor, after obliteration of the main artery, when coagulation takes place, does not relieve the tension in certain confined and compressed spaces (as in the popliteal area), where the evacuation of the sac is necessary to improve the perianeurismal and the distal circulation.

One of the great advantages of the intrasaccular method is that the sac is thoroughly emptied of its contents and that the perianeurismal tension is at once relieved, giving not only better opportunities for the development of the collateral circulation, but also relieving the obstruction to the return venous flow, as is so apparent in many edematous and choked limbs in advanced cases of popliteal aneurism.

Note.—Surgeons who have had personal experiences with the intrasaccular method (endoaneurismorrhaphy) will greatly oblige the author by communicating with him and furnishing clinical reports, which will be utilized and duly credited in a further statistical study of the reported cases.

2255 St. Charles Avenue.

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[3] Von Oppel: Arch. f. Klin. Chir., 1908, lxxxv.

SUCCESSFUL LIGATION OF THE INNOMINATE ARTERY.*

WILLIAM BRITT BURNS, M.D.
Surgeon to the City Hospital; Division Surgeon to 'Frisco Railway.
MEMPHIS.

Valentine Mott, who performed the first operation for ligation of the innominate artery in 1818, says:

> Since the publication of Allan Burns' invaluable work on the *surgical anatomy of head and neck*, I have been in the habit of showing in my surgical lectures, the practicability of securing in a ligature, the arteria innominata; and I have had no hesitation in remarking that it was my opinion that this *artery might be taken up for some condition of aneurisms* and that a surgeon with a steady hand and a correct knowledge of the parts would be justified in doing it.

When the proper case presented itself to him he said further: "I could not for a moment hesitate in recommending and performing the operation."

METHOD OF CLASSIFICATION.

I am presenting for consideration five classes of cases tabulated as follows:

1. Cases in which the innominate artery alone was ligated for subclavian aneurism. In this class the arteries are necessarily diseased; and the case I present to you falls under this class (Table 1).
2. Cases in which the innominate, carotid and vertebral arteries were ligated for aneurism of the innominate, carotid and subclavian arteries. Here also the vessels are diseased and more than one vessel is ligated, an extra precaution against hemorrhage or return of the aneurism (Table 2).
3. Cases in which the innominate artery was ligated for secondary hemorrhage and in which the vessels probably were not diseased and greater prospects of repair might be expected (Table 3).
4. Cases in which the artery ligated is indefinite and reported as innominate ligations; also miscellaneous cases (Table 4).
5. Cases in which ligation of the innominate artery was attempted but in which the operation was not completed (Table 5).

In the first class of cases, if Burrell's case is counted as a recovery, we have 0.11 per cent. recoveries. If this case is regarded as unfavorable, then the case I present is the only recovery in this class and shows 0.55 per cent. recoveries.

In the second class a percentage 35.7 is shown.

In the third class 33.3 per cent of the patients recovered.

In the fourth class there were no recoveries.

In the fifth class, strangely enough, we have a recovery percentage of 40 per cent.

Of the 46 cases actually accomplished, 15, or 32.5 per cent., were done in the United States of America and credited to the following cities: New York, 5 (Valentine Mott, Lynch, A. B. Mott, Bull, Curtis); Boston, 2 (Burrell, Gray); Philadelphia, 1 (Harte); San Francisco, 2 (Cooper, 2); New Orleans, 2 (Smythe, De Laup); Shreveport, 1 (Schumpert); Baltimore, 1 (Hall); Memphis, 1 (Burns). The United Kingdom gets 16 cases, with 8 to England, 3 to Scotland, 4 to Ireland and 1 to Wales. Mexico gets 1, Germany 1, India 2, Russia 4, France 2, Australia 2, Italy 1.

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* Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

TABLE 1.—CASES IN WHICH THE INNOMINATE ARTERY ALONE WAS LIGATED FOR SUBCLAVIAN ANEURISM.

No.	Name and Residence of Operator.	Age, Sex.	Condition Requiring Operation.	Ligature Used.	Date of Hemorrhage, if any.	Time of Death.	Cause of Death.	Place of Record.	Remarks.
1.	Mott, New York, 1818.	57*	Aneurism of innominate, carotid and subclavian, 2½ months.	Silk.	Twenty-third day.	Twenty sixth day.	Hemorrhage.	Medical Repository, New York, 1818, i.	
2.	Graefe, Berlin, 1822.	30*	Aneurism right subclavian, rapid growth.	Not described.	A few days before death.	Sixty-seventh day.	Hemorrhage.	Med. and Phys. Jour., 1823, 475; Brit. Med. Jour, 1882. 728.	
3.	Arendt, St. Petersburg, 1827.	36*	Subclavian aneurism; 1 year.	Not mentioned.	None.	Eighth day.	Sepsis exhaustion.	Guy's Hosp. Rep., xvii, p. 126; Wyeth, DeLaup.	Innominate artery closed.
4.	Dupuytren, Paris, 1834.	*	Subclavian aneurism.	....	....	Third day.	Hemorrhage.	Leçons Oral. de Clin. Chirurg., 1834, 611.	
5.	Lizars, Edinburgh, 1837.	36*	Subclavian aneurism; 11 months.	Not described.	Nineteenth, twentieth and twenty-first days.	Twenty-first day.	Hemorrhage.	Lancet, 1837, ii, 445-607.	
6.	Gore, R. I., Bath, Eng., 1856.	52*	Subclavian aneurism; 3 years.	Hemp.	....	Seventeenth day.	Shock.	Lancet, 1878, ii.	
7.	Pirogoff, St. Petersburg, 1856.	45*	Subclavian aneurism. some years.	Not noted.	None.	Forty-eight hours.	Septicemia, probably.	Guy's Hosp. Rep., xvii, 137.	
8.	Cooper, E. S., San Francisco, 1859.	40*	Double aneurism, carotid and subclavian.	Not noted.	None.	Ninth day.	Sepsis, probably.	Amer. Jour. Med. Sci., 1859, xxxviii.	Resected the sternum.
9.	Cooper, E. S., San Francisco, 1860.	40*	Subclavian aneurism.	Not noted.	....	Thirty-fourth day.	Hemorrhage.	S. F. Med. Press, January, 1861; Guy's Hosp. Rep., xvii.	
10.	Bickersteth, E. R., Liverpool, 1868.	40*	Subclavian aneurism; 3 weeks.	Double silk, lead clamp.	Sixth day.	Seventh day.	Hemorrhage.	Medico-Chi. Trans., 1873, lvi, 129.	Lead wire passed under innominate 2 days before ligature.
11.	O'Grady, E. S., Dublin, 1873.	*	Subclavian aneurism; 3 years.	Not described.	None.	Twenty hours.	Serous effusion into cerebroventric.	Power of arteries, 3d ed., 49.	Two in. clavicle removed.
12.	Thompson, W., Dublin, 1882.	49*	Subclavian aneurism; 10 months.	Ox aorta, 3 knots.	Thirtieth and thirty-ninth days.	Forty-second day.	Hemorrhage.	Brit. Med. Jour., 1882, ii.	
13.	May, B., Birmingham, 1886.	*	Subclavian aneurism; 17 months.	Five or 6 catgut threads; 3 knots.	....	Nineteenth day.	Hemorrhage.	Lancet, 1886, i, 1064.	
14.	Burrell, H. L., Boston, 1896.	54*	Aneurism involv. innom., carotid and subclavian; 18 months.	Two silk.	....	....	....	Boston Med. and Surg. Jour., 1895, vol. 133.	Recovery. Death 104th day. Dilatation of heart, aorta and large vessels with thickening.
15.	Schumpert, P. E., Shreveport, 1898.	42†	Innominate aneurism.	Silk.	....	Ninth day.	Cerebral anemia.	Med. Record, 1898, liv.	
16.	DeLaup, S. P., New Orleans, 1900.	58*	Double aneurism., subclavian, innom. and carotid (com.).	Two kangaroo tendons; one silk.	Twenty-first day.	Twenty-first day.	Exhaustion.	Phil. Med. Jour., Jan. 26, 1901.	Com. carotid and vertebral ligated 20th day.
17.	Buchanan, Glasgow, 1880.	40*	Subclavian aneurism; 4 months.	....	....	Few minutes.	Shock.	Quoted by Burrell.	See also Sheen's tables.
18.	Burns, W. B., Memphis, Tenn., 1907.	27*	Aneurism, 1st, 2d and 3d portions of subclavian artery.	One pedicle silk; granny knot.	Fourteenth, fifteenth and seventeenth days.	....	....	Memphis and Shelby County Med. Soc.	Recovery.

* Male. † Female.

TABLE 2.—CASES IN WHICH INNOMINATE, CAROTID AND VERTEBRAL ARTERIES WERE LIGATED FOR ANEURISM OF THE INNOMINATE, CAROTID AND SUBCLAVIAN.

No.	Name and Residence of Operator.	Age, Sex.	Condition Requiring Operation.	Arteries Ligated.	Ligature Used.	Date of Hemorrhage, if any.	Time of Death.	Cause of Death.	Place of Record.	Remarks.
1.	Smythe, A. W., New Orleans, 1864.	32*	Subclavian aneurism; 3 months.	Innominate and carotid; vertebral ligated 54 days later.	Not noted.	Fourteenth, thirty-third and fifty-first day.	....	....	Successful ligation in a case of subclavian aneurism, New Orleans.	Hemorrhage 51st day controlled by pouring shot into sac, finally ligating vert. on 54th day. Aneu. returned after 10 yrs., patient dying from hemor.
2.	Mott, A. B., New York, 1868.	*	Subclavian aneurism.	Innominate and carotid.	....	....	Twenty-third day.	Hemorrhage.	Wyeth's Essays, 1879, 163.	Sac ruptured into pleural cavity.
3.	Banks, M., New Orleans, 1883.	19*	Subclavian aneurism.	Innom. and carotid; 67 days later first port. subclav.	Kangaroo tendon; 3 knots.	Twenty-third day after last operation.	Thirty-seventh day.	Hemorrhage.	De Laup. Brit. Med. Jour., 1885, i, 230.	Death on 104th day after first lig.

4.	Bull, New York, 1884.	...	Subclavian aneurism.	Innom., carotid, and vertebral, simultaneously.	Double catgut.	....	Thirty-third day.	Hemorrhage.	Burrell, Boston M. and S. Jour., 1895.	
5.	Durante, F., Rome, 1887.	45*	Subclavian aneurism; 2 years.	Innom., carot. and vert.	....	Tenth day.	Sixteenth day.	Hemorrhage, hemiplegia.	Brit. Med. Jour, ii, 79.	
6.	Twyman, G. E., Sydney, 1890.	18†	Subclavian aneurism; 1 year.	Innominate and carotid.	Silk.	....	Eighteen hours after operation.	Shock or cerebral lesion.	Lancet, 1890, i, 1352.	
7.	Coppinger, C., Dublin, 1893.	53*	Subclavian aneurism.	Innom., com. carot. divided between ligs.	Silk.	....	....	....	Lancet, 1893, ii, 327.	Recovery. Exhibited 42 days after operation.
8.	Gray, G. W., Boston, 1896.	30†	Aneu. involving innom., subclav and carotid.	Innominate; then 19 days later carotid ligated.	Three silk.	Nineteenth, thirty-second and forty-second days.	Forty-second day.	Hemorrhage, asepsis.	Boston Med. and Surg. Jour., 1897, vol. 137.	
9.	Ballance, C. A. 1902.	35*	Aneu. innom., subclav., com. carot.; 6 months.	Innominate and carotid.	Four gold beaters' skin.	None.	Second day.	Clot right intern. and mid. cereb. art., left hemiplegia.	Lancet, Nov. 1, 1902.	
10.	Sheen, W., Cardiff, Wales, 1904.	46*	Subclavian aneurism; 6 months.	Innom. and carotid; 1st portion subclav. 61 days later.	Floss silk stay knot.	....	....	....	Ann. Surg., July, 1905, i, 1.	Recovery.
11.	Symonds, C. J., Guy's Hospital, London, 1894.	53*	Subclavo-axillary aneu.	Innominate and carotid.	Silk.	....	....	....	Guy's Hosp. Rep., Nov., 1894.	Recovery.
12.	Curtis, B. F., New York, 1899.	53*	Subclavo-axillary aneu.; some months.	Innom. tied, carotid and 1st portion subclav. 101 days later.	Chromic catgut, 2 threads simultaneously, then 1 distally.	....	....	....	Sheen's table, Annals Surg., July, 1905.	Recovery.
13.	Jacobson, W. H. A., London, 1890.	46*	Subclavo-axillary aneu.; 1 year.	Innominate and carotid.	....	....	Tenth day.	Broncho-pneu.; delir.	Sheen's table.	Inner end of clavicle removed.
14.	Moynihan, B. G. A., Leeds, Eng., 1897.	31*	Subclavian aneurism.	Aneurism cleared, incised; cut ends of vessel tied, with 4 strands catgut; 61 days later innom. and carotid tied.	Four strands of catgut.	Fifty-ninth day.	One hour after 1st operation.	Collapse.	Sheen's reprint.	Clavicle divided at inner and outer ends.

Of the nine recoveries reported, counting Burrell's case, covering the first four classes, in which the innominate was actually tied, either alone or with the carotid, vertebral and subclavian, four are to be credited to the United States, two to England, one to India, one to Mexico and one to Ireland.

Of cases in the United States, one goes to New York (Curtis), one to Massachusetts (Burrell), one to Louisiana (Smythe), and one to Tennessee (Burns).

Of the attempted ligations (Class 5) one goes to Dublin (Porter, W. H.), one to New York (Hoffman), one to London (Key), one to Rio Janeiro (Peixto), and one to New Orleans (Parham). Of these cases the patients of Porter and Peixto recovered.

Out of the fifty-one times the innominate artery has been approached with the idea of securing it in a ligature, of all the classes 11, or 21.5 per cent., of the patients have recovered. Of the fifty-one cases of all classes, 21 of the patients, or 42 per cent., suffered from wound infection, and 6, or 11.6 per cent., died from shock. Exactly the same number—six—died from some cerebral lesion.

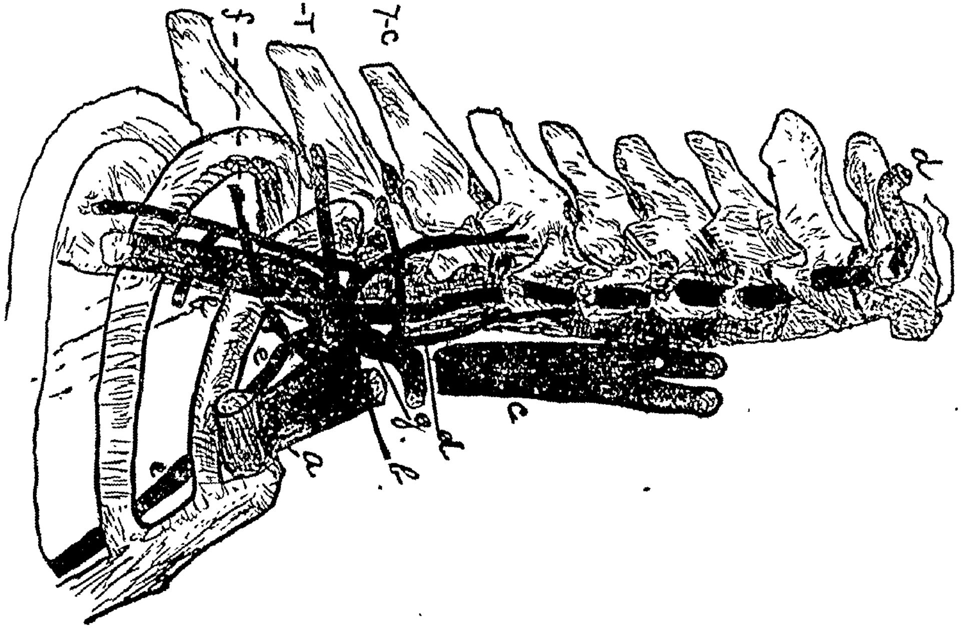

Fig. 1.—Showing relations of the innominate artery; a, innominate artery; b, subclavian artery; c, common carotid artery; d, vertebral artery; e, internal mammary artery; f, transversus scapulæ; g, thyreocervical trunk; 7-c, seventh cervical vertebra; 1-t, first thoracic vertebra.

Since the beginning of the antiseptic period, in 27 per cent. of the cases the *patients have shown* wound infection. Wound infection is also shown in 25 per cent. of the patients classed as recoveries of the antiseptic and aseptic periods (since 1871). Out of the

TABLE 3.—CASES IN WHICH THE INNOMINATE ARTERY WAS LIGATED FOR SECONDARY HEMORRHAGE, ETC.

No.	Name and Residence of Operator.	Age, Sex.	Condition Requiring Operation.	Arteries Ligated.	Ligature Used.	Date of Hemorrhage.	Time of Death.	Cause of Death.	Place of Record.	Recoveries and Remarks.
1.	Hutin, Paris, 1842.	27*	Secondary hem., injury long thoracic art. penetrating wound; 9 days.	Third port. subclav. then innom. 9 days later.	Flat ligature.	None from innom.	Twelve hours after operation.	Hemorrhage.	Lancet, 1842, vol. i, Arch. de chirurg. Fran. et Etrang.	
2.	Lynch, New York, 1867.	23	Sec. hem. from gunshot wound of int. carot. and vert.	Innominate; carotid had been lig. a month previously.	Not mentioned.	Twelfth day.	Twelfth day.	Hemorrhage.	Quoted by Burrell.	
3.	Partridge, C. B., Calcutta., 1870.	*	Sec. hem. from carotid aneurism; 1½ years.	Com. carot.; 13 days later innom. tied.	Not mentioned.	Thirteenth day, from the carotid.	One and a half hours after 2d operation.	Shock.	Indian Ann. Med. Sc., xiv, 22.	
4.	Lewtas, J., India, 1889.	20*	Hem. from traumatic subclav. aneurism; 1 month.	Innominate and carotid.	Catgut.	....	....	....	Brit. Med. Jour., 1889, ii, 312.	Recovery reported 43 days after operation.
5.	Harte, R. H., Philadelphia, 1897.	26*	Sec. hem. gunshot wound of neck (com. carotid).	Innom., subclav., and carotid.	Silk.	On day of second operation and 10 days previously.	A few hours.	Hemorrhage.	Ann. Surg., 1897, xxvi, 489.	
6.	Hernandez, A. J., Mexico, 1900.	...	Laceration com. carotid.	Innominate.	Not mentioned.	....	....	....	Wien. med. Blätter, Aug. 30, 1900.	Recovery.

* Male. † Female.

TABLE 4.—CASES IN WHICH ARTERY LIGATED IS INDEFINITE (AND REPORTED AS INNOMINATE LIGATIONS); MISCELLANEOUS.

No.	Name and Residence of Operator.	Age, Sex.	Condition Requiring Operation.	Arteries Ligated.	Ligature Used.	Date of Hemorrhage.	Time of Death.	Cause of Death.	Place of Record.	Recoveries and Remarks.
1.	Norman, Bath, 1824.	*	Subclavian aneurism.	Not described.	Not mentioned.	....	Third day.	Hemorrhage.	Guy's Hosp. Rep., xviii.	
2.	Hall, Baltimore, 1836.	52*	Subclavian aneurism; 9 months.	Not described.	Not mentioned.	At operation.	Sixth day.	Hemorrhage.	Balti. Med. and Surg. Jour. and Rev., 1833, i, 125.	Needle passed through the vessel.
3.	Bland, Sydney, 1832.	31*	Subclavian aneurism; 2 years.	Not described.	Two threads.	Seventeenth and eighteenth days.	Eighteenth day.	Hemorrhage.	Lancet, 1832, ii.	
4.	Porter, G. H., Dublin, 1867.	43*	Subclavian aneurism.	Clamp applied to innominate for 3 days.	None.	....	Second day.	Hemorrhage.	Med. Press and Circular, 1877.	
5.	Bujalsky, St. Petersburg, 1833.	56*	Subclavo-axillary aneu.	Innominate.	Tied by tourniquet.	....	Fifth day.	Sepsis, pus in pericard.	Sheen's tables.	
6.	Bujalsky, St. Petersburg.	...	Subclav. aneu., probably.	....	....	....	Shortly after operation.	....	Sheen's tables.	No details.
7.	Miles, London.	...	....	Innominate.	....	....	Not stated.	....	Lancet.	Sheen letter calls attention to Miles case.
8.	Annandale, T., Edinburgh, 1885.	53*	Subclavian aneurism.	Innominate, clamp used.	....	....	Twelfth day.	Hemorrhage, sepsis.	DeLaup and Sheen's tables.	

* Male. † Female.

TABLE 5.—CASES OF ATTEMPTED LIGATION, ETC.

No.	Name and Residence of Operator.	Age, Sex.	Condition Requiring Operation.	Ligature Used.	Date of Hemorrhage, if any.	Time of Death.	Cause of Death.	Place of Record.	Remarks.
1.	Porter, W. H., Dublin, 1832.	47*	Subclavian aneurism; 2½ years.	....	....	....	....	DeLaup and Sheen's tables.	Operation abandoned, could not find healthy part of vessel. Recovery.
2.	Hoffman, New York, 1839.	63*	Subclavian aneurism; 5 months.	....	....	....	....	DeLaup and Sheen's tables.	Innom. unhealthy; death in 3 months.
3.	Aston Key, London, 1844.	46†	Subclavian aneurism; 3 months.	....	....	....	....	DeLaup and Sheen's tables.	Sac large; hemorrhage and death.
4.	Peixoto, A. J., Rio Janeiro, 1851.	33*	Vascular tumor of car— "bleeder."	....	....	....	....	DeLaup and Sheen's tables.	Ligature passed but not tied. Recovery.
5.	Parham, F. W., New Orleans, 1891.	48*	Cervical aneurism involving innom.	....	....	Seventeen hours.	Shock.	DeLaup and Sheen's tables.	Artery exposed, not tied.

* Male. † Female.

eleven recoveries of all classes, 36 per cent. of the patients were infected.

AUTHOR'S CASE.

Patient—J. H, colored, aged 27, was admitted to the City Hospital, Aug 6, 1907.

History—Father living and in good health. Mother died at age of 35 from hemorrhage of the lungs (?). One brother died at the age of 18, cause of death unknown; one sister living, aged 25, in good health. Grandparents all dead. The patient has supernumerary toes and had six fingers on each hand, but the extra ones were removed in infancy. This peculiarity is a family trait The patient had whooping cough at 3; measles and mumps at 6, and pneumonia at 20, very severely He had gonorrhea seven years ago with a bubo, which was lanced five years ago He had a sore on his penis, also, lasting two months, with "kernels" in the groins and neck Since that time he had had several attacks of rheumatism in arms and legs, with some swelling of legs He had pain and a slight swelling over the breast bone eighteen months ago Good deal of hoarseness, not much sore throat About one year ago he noticed a swelling above the right collar bone He painted this with iodin but the swelling continued to grow, and finally, five months ago the pressure of the growth began to produce pain in the shoulder, both in the supra- and infraspinous regions and down the right arm For a month, prior to entering the hospital, he had not been able to sleep at night, or to get any satisfactory rest at all, day or night He worked during the day, because he seemed to suffer less pain when working, than when idle The arm and hand were edematous and numbness in the hand was complained of.

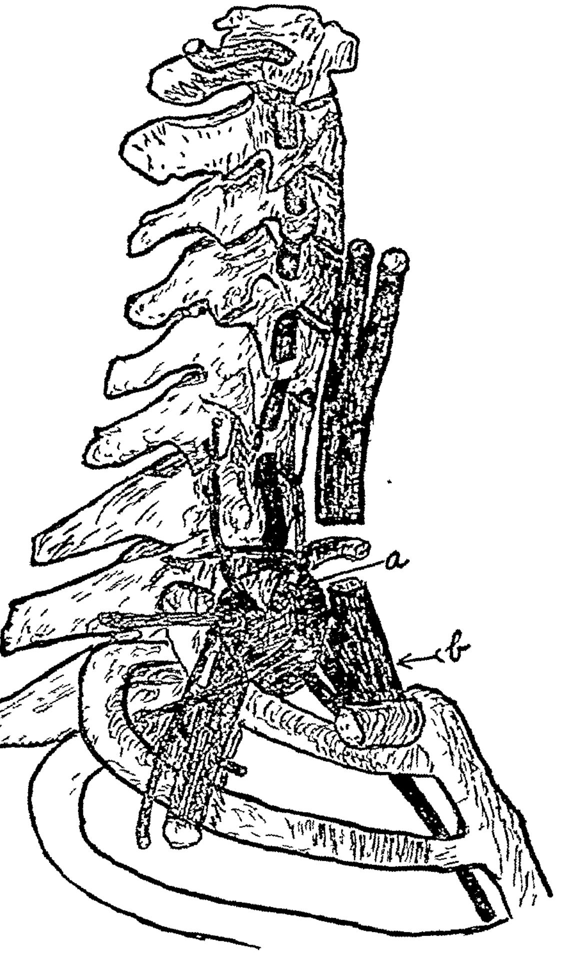

Fig 2—Showing the aneurismal sac (a) and the point of ligation (b)

Operation—August 9 the patient was operated on I was assisted in the operation by Dr. Robin Mason Ether was administered by Dr. Albert Vaughn. The Valentine Mott operation was done. One ligature of the largest size braided silk (pedicle) was tied in a "granny" knot around the innominate artery about one inch proximal to its bifurcation into the common carotid and subclavian The ligature was drawn just tight enough to approximate the walls of the vessel and not tight enough to crush either of its coats Pulsation in the aneurism ceased at once and did not return. The patient entered the operating room at 3 p m., and at 4:20 p. m. he was returned to his bed; pulse 129, respiration 30 At 5:20 p m he was very restless, pulse 120; he received codein sulphate gr ½ and morphin gr. ⅛ At 6 p. m his pulse was 110. At 8 30 p m he was given morphin gr. ¼ and crushed ice At 10 p m. patient was sleeping, 10 50 p m. he was awake and restless and was given morphin gr. ¼. At 11 p m he was asleep At 2 a m. and 4 a m he was given ice water At 7 30 a m patient was asleep

August 10 At noon his temperature was 100 F, pulse 90; given a light meal at 3 p m temperature 100 F, pulse 80. At 6 p m he was given a light meal

August 11 At 3 a m his temperature was 99.4 F, pulse 96 rested very well He reported that he got up during the night to get water At 9 a m the wound was dressed The swelling (edema) was gone from the hand; numbness was disappearing, pain in shoulder apparently gone At noon his temperature was 100.6 F, pulse 116. He was put on regular diet. At 3 p m his temperature was 99.6 F., pulse 90. The patient had a good night

August 12 At 9 a. m his temperature was 100.4 F., pulse 104

August 13. Patient passed a good night; had one bowel movement At 9 a m. his temperature was 100 F., pulse 80; the wound was suppurating and the upper line of incision was broken down. A 1 to 1,000 bichlorid of mercury solution was applied in moist hot pack, at 6:30 p m. his temperature was 104.4 F., pulse 80 Milk was given. He was restless and complained of his head

August 14. He had a very good night. At 9 a. m his temperature was 100 F., pulse 86. The wound was dressed, counter openings made and drainage wicks placed; a hot bichlorid of mercury 1/2000 pack was applied At 6 p m his temperature was 101.4 F., pulse 108 Ate both dinner and supper.

August 15 Patient passed an uncomfortable night. At noon his temperature was 101.6, pulse 96 He was given magnesium sulphate 1 oz. and morphin ¼ gr., codein ½ gr. At 6 p m his temperature was 101.6 F., pulse 86 Boric solution was applied on pack Took both dinner and supper.

August 16 He had a good night His temperature and pulse were unchanged

August 17 Patient had a comfortable night, two bowel movements His temperature was 97.2 F, pulse 98. At 9 a m. the wound was dressed At 3 p m, his temperature was 99 F., pulse 98 F

August 18· Passed a splendid night At 9 a. m. the wound was dressed, his temperature was 99.6 F, pulse 80.

August 19 Patient had a very good night Wound was dressed at 9 a m his temperature was 99 F, pulse 90 At 3 p m. his temperature was 99.6 F., pulse 72. Had a bowel movement.

August 20 He had a splendid night. At 8:30 a m the wound was dressed. At 3 p m his temperature was 99.6 F., pulse 103

August 21. At 9 a m the patient's temperature was 97.8 F, pulse 82. At 3 p. m, 99.6 F., pulse 108. He had two bowel movements.

August 22 (fourteenth day) Patient slept well. At 9 a m the wound was dressed, at 3 p. m his temperature was 99.6 F, pulse 104. He had two bowel movements. During the night while he had a normal temperature and pulse he was very uncomfortable There was hemorrhage from the wound which was controlled with cotton pack and by tightening dressing. He was given morphin ¼ gr.

August 23. At 9 a. m. his temperature was 98.4 F., pulse 96, the wound was dressed At 3 p. m. his temperature was 101 F., pulse 94; ate three meals

August 24 (sixteenth day): He complained of pain in head during night. His temperature was 99.4 F., pulse 90. At noon his temperature was 98.4 F., pulse 98; at 3 p. m. 100.2 F., pulse 97. At 3:30 p. m. there was a small hemorrhage from the wound.

August 25.—Patient had slept well. Temperature 100 at 5 a. m. At 9 a. m. temperature was 102.4 F., pulse 108. At 11 a. m. the wound was dressed. At 3 p. m. his temperature was 101.6 F., pulse 98. Patient ate three meals.

August 26: There was a small hemorrhage from the wound at 7 a. m. At 9 a. m. his temperature was 100.2 F., pulse 104. In the afternoon it was the same.

August 27: He had a good night. At 9 a. m. his temperature was 99.8 F., pulse 102; at 3 p. m. 100 F., pulse 101. He had two bowel movements. Up to this date the patient had been getting increasing doses of a saturated solution of potassium of iodid up to 88 drops six times in twenty-four hours; he had now reached the point of iodism.

August 28: Patient's temperature reached normal.

Nothing of consequence occurred until September 30 when the ligature was recovered from the wound while it was being dressed.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. CARREL, GUTHRIE, MATAS AND BURNS.

Dr. J. E. Sweet, Philadelphia: I know of no subject in medicine or biology which has been the direct incentive of more valuable laboratory work than this subject of blood-vessel surgery. The inspiration to research work is like the root of a plant, one root feeding many branches, which spread out in all directions. Beginning with the first work in blood-vessel surgery, the first transfusion in 1657, and following the history of the subject through the years, we come, in the earliest period of the laboratory, to the magnificent work of Landois, the direct result of blood-vessel surgery, the immediate stimulus of all that recent work represented by a new vocabulary of terms, from "agglutinins" to "hormones," and by the new methods of research, from those of hemolysis to that highest development of complex laboratory analysis, the determination of a condition of infection by the method of complement deviation. Work of the kind described to-day, should, I think, be divided in two groups, a group in which the results are immediate—temporary physiologic experiments—and the group comprising the transplantation of organs, vessels and so forth.

I do not agree with the speakers of to-day in thinking that the suture method is the best for the temporary work, for example, the transplantation of the head in order to study the cerebral functions from the laboratory standpoint. The best method for work of this type is to take a small tube of the diameter of the blood vessel, draw the cut end of the vessel through the tube and turn it back wrong side out over the tube and fasten it with a ligature. The end of the vessel which is to be joined is drawn over this cuff and fastened with a ligature. We then have a tube lined with intima inside and out; the cut edges of the vessel are outside the blood stream; there can be no thrombosis, and the whole process can be performed in less than two minutes. I have in that way transposed the pancreas, the time elapsing from the moment of severing the pancreatic vessels until the blood was again flowing through the vessels, being less than two minutes.

The suture method for permanent transplantations seems to me perfect; nothing can be added to the description we have heard. Several writers on the subject have spoken of the necessity of "perfect asepsis." To my mind there is no such thing as perfect asepsis because any sepsis is perfect asepsis. I object to this term because I find that young surgeons gain from the use of the terms "asepsis," "better asepsis," and "perfect asepsis," the idea that good surgery can be done without asepsis; surgeons must enforce the idea that the word "asepsis" means "without sepsis," is absolute and suffers no qualification, and that aseptic surgery is the only permissible ideal.

Dr. J. F. Binnie, Kansas City, Mo.: Every one is familar with the old demonstration of the circulation in the mesentery of the frog. If, during the examination the mesentery is permitted to become dry, the phenomena of inflammation appears and the circulation soon ceases. If the tissues are kept warm and moist the circulation continues for a long time. This old observation gives the key to success in arterial surgery. The basic law of reconstructive arterial surgery is, "keep the arterial tissues moist and unirritated." Carrel fulfils this law by washing away clots, etc., with salt, or, better, with Ringer's solution, and by appying sterile vaselin to the tissues and to the sutures which he uses. Hertzler in his many experiments on arterial suture failed because he did not keep the tissues moist and prevent his sutures from irritating. An aneurism (apart from a traumatic one) develops only in a diseased vessel and then either at the spot where the disease is greatest or where the strain is greatest. If we can repair this weakened spot so that it becomes as strong as the rest of the vessel (weak though it may be) we have gained much. It is only after cutting into the aneurismal sac that we can judge whether sufficient of the arterial wall, both in quantity and quality, remains to permit an attempt at reconstruction of the vessel. In true fusiform aneurisms reconstruction is manifestly impossible. In some sacciform aneurisms, whether with one or two orifices, undoubtedly the vessel may be restored to a good imitation of integrity. If the conditions found after the sac is opened do not warrant an attempt at reconstruction, Matas' obliterative operation should be performed. This operation is usually easy and its great worth has been absolutely proved. In the obliterative operation no attempt should be made to keep the tissues moist by smearing with vaselin. Catgut is the suture material of choice. In the reconstructive operation the law demands that the tissues be kept moist with some substance like vaselin and that the sutures closing the communication between the artery and the sac be of fine vaselinized silk or hemp. After the orifice of communication is closed the rest of the sac may be closed as in the obliterating operation.

Dr. Dean D. Lewis, Chicago: Dr. Burns' case, apparently, was an ideal one for the operation of ligation of the innominate artery for the cure of a subclavian aneurism. In most cases in which the operation has been attempted the aneurismal dilatation involved the innominate artery itself rendering the operation difficult and the remote results uncertain. In 1887 Rosenstirn collected reports of thirty-eight cases in which a simultaneous distal ligation of the common carotid and subclavian arteries had been undertaken for the cure of aneurism involving the innominate artery. Six of these operations were performed before the antiseptic era. Two of the six patients recovered, four died. Thirty-two operations were performed under careful antiseptic and aseptic precautions. Fourteen of these recovered, five were improved, five were not benefited and eight died. Simultaneous distal ligation of the arteries gives a much higher percentage of recoveries than proximal ligation. The term recovery is employed in a relative sense, being applied to those cases in which the symptoms have not recurred for one year and a half and the patient has been able to assume a moderate amount of light work. In many of the cases in which proximal ligation has been performed it has been necessary to perform distal ligation later. It would seem better, therefore, to attempt first distal ligation which is not attended by such a high mortality and to resort later to proximal ligation if the resuls were not satisfactory. In proximal ligation it is necessary to have a free exposure of the sac and this can be secured by dividing sagittally the manubrium down to the lower border of the first rib or slightly lower and retracting well the divided portions making an incision outward to the border of the first rib.

Dr. J. A. Dana, New Orleans: I have had an experience of seven cases in which I perform the Matas operation, and I will call attention to a few points that struck me. First and most important is the ease and the simplicity of the operation. All that is necessary is to get into the sac after securing hemostasis of the part by constriction of the limb above, or compression or temporary ligation of the main vessel above; and then to suture the openings that convey blood to and from that sac. Usually the sac has so thinned the overlying structures by stretching and pressure that it is merely a matter of going through the skin and fascia and possibly a few muscular fibers. There has been much misunderstanding in the profession as to the nature of the Matas operation. It means incision of the sac after preliminary arrest of the circulation of the part, and direct suture of the openings within the sac. After doing that, if we find a perfectly clean sac, lined entirely with serous membrane, we close it completely without drainage.

My first two cases were, one femoral and the other popliteal; rupture into the subcutaneous tissues had occurred before I got at them. In such cases one should drain. In the seven cases I had only one really spindle-shaped aneurism. The other six were practically sacciform. Usually the ends of the vessel project into the cavity. The propriety of doing the more complete operation—that is, of preserving the continuity of the artery—is still, I think, a question. In the purely sacciform aneurism, particularly the traumatic, in which there is but one opening in the side of the vessel that leads into the aneurism, one can suture that opening with ease. But where there are two openings some distance apart, the propriety and safety of reconstructing the missing portion of the vessel and maintaining its continuity, becomes a serious question. I have had two cases in which I did this and in one case I think I would have been successful if I had had more experience. Twenty-eight days after I operated I noticed that the aneurism had recurred and when I reopened the sac and dissected the parts loose again I found that four-fifths of the reconstructed vessel was strong and that it had yielded in its lower fifth so that if that portion had been as well sutured and as strong as the rest, I believe that that case would have been successful. In the other case there was a fatal termination and it has taught me never to do the more complete operation unless I can watch my patient for some time afterward. The patient, a negro farm hand, left the hospital during convalescence from a reconstructive operation on an ileofemoral aneurism because he became frightened at the entrance of a supposed case of smallpox, and went to work immediately. He had a recurrence, refused to return for treatment and died from rupture of the aneurism shortly after. If he had remained or returned I would have closed the orifices in a second operation as I did in my previous case. In this case I had to apply a temporary ligature on the common iliac to control hemorrhage.

Dr. D. W. Steiner, Lima, Ohio: Some years ago I made an observation with reference to the clotting of blood, which was just now recalled by Dr. Guthrie's statement he experienced trouble in this regard. With Dr. Sewall in the Physiological Laboratory of the University of Michigan, a study in blood pressure was made. We operated chiefly on dogs and rabbits and experienced great difficulty in keeping the blood from clotting in the canulæ. It was accidentally discovered that with animals that were not fed the day of the observation, there was little clotting and if animals were not fed the day before, there was no clotting even though the study was continued for hours. This would show that in the transfusion of blood a starved animal should be selected.

Dr. George W. Crile, Cleveland, Ohio: I wish to speak of the practical application of the work of Carrel and Guthrie in certain surgical procedures. Among the transfusions we have done, the first was accomplished by anastomosing the radial artery with the median basilic vein. We found the method satisfactory so long as the technic can be carried out, one will not have any difficulty. In a case of cancer of the breast, in order to make a complete excision of the structures involved in the axilla I was obliged to resect about one inch of the axillary artery and made an end-to-end anastomosis according to the method of Carrel and Guthrie. The artery united readily and convalescence was in no way hindered. In a number of instances I have sutured rents in the veins, which were made at the time of operation for removal of large malignant tumors. I have performed the Matas operation twice, once successfully in the case of an aneurism of the femoral artery. A case of aneurism of the abdominal artery was operated on unsuccessfully.

Dr. Alexis Carrel, New York: Surgery of the blood vessels is at its beginning and the question is really almost entirely an open one, at least as far as the application of laboratory experiments to clinical work is concerned. The experiments must be carried out with reference to their practical applications. Suture and transplantation of the blood vessels have been done successfully on animals. In transplantation of blood vessels, however, it is necessary to make a distinction between arteries and veins, and between homoplastic and heteroplastic grafts. After a great many experiments it appears that the transplantation of a fresh piece of artery gives constant, positive results. It is possible that a large aneurism can be extirpated and replaced by a segment of an artery or of a vein. This has been tried in Germany by Lesser, who transplanted a piece of vein after removal of an aneurism. In the applications of the transplantation of vessels or organs to clinical surgery, it would be necessary to modify in some measure the methods which are successful on animals. The anatomic and physiologic conditions of vessels belonging to different species of animals are different. The details of the technic must be exactly adapted to these differences. To apply indiscriminately to man methods which have been even very successful on animals, would be certainly dangerous.

Dr. William Britt Burns, Memphis, Tenn.: Dr. Lewis spoke of the removal of the sternum. I found that that was done in one instance. Resection of the clavicle was done in four cases, but usually the bifurcation of the innominate is high enough up to be reached by the Valentin Mott incision with the head thrown back and arm down. The patient I presented had hemorrhages on the fourteenth, sixteenth, and seventeenth days. The wound suppurated, probably because of the very hot weather, the perspiration running down his face and chin into the dressing, which, I think, he displaced by pulling. The ligature was recovered on the twenty-first day. The collateral circulation is through the subscapular and the aortic intercostals.

Dr. Rudolph Matas, New Orleans: Catgut if used in the crude state would be a defective material for use in vascular surgery. Ordinary catgut sterilized by heat would never do, but hardened chromic gut does very well, as we have proved in all cases in which it has been used. In obstructive and obliterative cases we should adopt the principles of Carrel's technic, but in all obliterative cases we would use chromic gut, No. 1, for closure of the opening and obliteration of the sac.

INFANTILE PARALYSIS.

A STUDY OF 635 CASES FROM THE CHILDREN'S HOSPITAL, BOSTON, WITH ESPECIAL REFERENCE TO TREATMENT.[*]

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The following paper deals with an analysis of 635 consecutive unselected cases of infantile paralysis seen at the Orthopedic Out-Patient Department of the Childrens' Hospital, Boston, between Jan. 1, 1897, and Jan. 1, 1908. We are indebted to the Orthopedic Department of the Hospital for permission to report the cases, and to the neurologist for the privilege of consulting the records of that department in cases common to both clinics. The investigation was begun eighteen months ago, and so far as possible the cases have been examined personally by one of us.

FUNDAMENTAL ANATOMIC CONSIDERATIONS.

We are dealing with a lesion of the motor cells of the anterior horns of the spinal cord, and, as it is obvious from the pathology that the harmful agent reaches these cells through the blood current, the relation of the arterial supply to the motor cells becomes of importance.

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[*] Read in the Section on Surgery and Anatomy of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

[*]Because of lack of space, the article is here abbreviated. The complete article appears in the Transactions of the Section and in the author's reprints.

Spinal Motor Cells.—The spinal motor cells lie in spindle-shaped bundles in the anterior horns of the spinal cord, being chiefly located in the cervical and lumbar enlargements. The greatest extent of these groups is in the length of the spine, one group frequently reaching through two or three spinal segments, while it overlaps other groups lying above and below it. Whether such group represents an anatomic set of muscles or whether the cells represent a functional grouping, as held by Lapinsky, is not settled, but in any event the relations of the cells to others in the same group and to those of other groups is most complex. One center will send impulses to two or more muscles, and, on the other hand, one muscle will receive motor impulses from more than one group. This matter of the complicated origin of motor impulses becomes of great importance in considering treatment.

Blood Supply of Spinal Cord.—The blood supply of the spinal cord is derived chiefly from one anterior and two posterior spinal arteries. This anterior artery runs the length of the cord in the anterior fissure and is the chief supply of the anterior cornua. It is with the distribution of the blood supplied by the anterior spinal artery that we are chiefly concerned. From this anterior spinal artery there arise two lateral horizontal branches, one to each side, which enter the cord at different levels, about 200 in number. These are the central or sulco-commisural spinal arteries. Entering the anterior cornua, they terminate in a network after subdividing into various branches. Each of these central arteries has ascending and descending branches, covering an area in the length of the cord of from 1.5 to 2 cm. These branches are terminal arteries and do not anastomose with each other. Although they supply chiefly the anterior horns, there are branches to the bordering white matter and one posterior branch.

The terminal twigs of the central arteries do not individually supply each an especial group of motor cells in the anterior horns, but are distributed apparently without reference to the cell groups so that each cell group gets its blood supply from several branches of one central artery or from those of more than one central artery. The irregular distribution of destruction of foci in infantile paralysis is thus explained, being dependent on the fact that the lesion follows the blood course and is determined by the distribution of the arteries affected.

The main fact is that, on the whole, the groups of motor cells run in the length of the cord and have their associations in this direction, and that the blood supply is mainly horizontal. Hence, unless the lesion is very extensive, some cells in a group are likely to escape destruction. *The utilization of such remaining cells in partly destroyed groups becomes, therefore, one of the most important objects of treatment.*

ETIOLOGY.[1]

Bacteriology.—Most examinations of the fluid obtained by lumbar puncture by observers all over the world have been negative. In about thirty cases organisms have been reported as present in the last ten years, but these organisms have differed, the most constant finding being the report of fifteen cases by Geiersvold and Harbitz and Scheele,[2] where the same diplococcus was found.

Experimental Production.—Paralysis of a sudden type frequently occurs in laboratory animals, especially in young ones. Lesion of the cells in the anterior horns of the cord has been found in experimental paralysis caused by the injection of staphylococci, streptococci, colon bacilli, pyocyaneus, and other organisms in rabbits. A selective action of certain poisons for the anterior spinal cells is thus shown, and the same is true of some of the metallic poisons, such as lead and arsenic.

Epidemic Character.[3]—That the disease occurs in epidemic form is well recognized, distinct epidemics having been reported from France, Italy, Germany, Austria, Norway, Sweden, Australia and in the United States from California, Alabama, Massachusetts, Maine, New York and Vermont. New York City in the summer of 1907 experienced the most severe epidemic ever yet reported anywhere.

Contagion.—The comparatively frequent occurrence of more than one case in a family suggests the possibly contagious nature of the disease or infection from a common source.

Traumatism.—A history of trauma was given in 47 of our series where a history was obtained, and occurring in so large a proportion of the cases it seemed worthy of notice. In 32 cases there was given a history of accident followed almost immediately by paralysis, as shown in Table 1.

TABLE 1.

	No. of Cases.
A.—Slight accidents:	
Slight fall	20
Fall from cradle	3
Fall from chair	1
Fall from swing	1
Fall from carriage	3
Fall from automobile	1
Fall while walking, skating or playing	5
Dropped by nurse	1
Falling under other children	1
B.—More serious accidents:	
Fall from a third-story window	1
Fall from first story window	1
Stone fell on the head	1
Gate fell on the foot	1
Fracture of tibia	1
Total	41

In all of these cases the paralysis followed immediately or so shortly after the accident as to suggest to the parent's mind the relation of cause and effect.

In a second series of six cases (Table 2) the paralysis did not follow the accident immediately, but came on at an interval of some days.

TABLE 2.

Fall from chair	Paralysis a few days later
Fall from carriage	Paralysis a few days later
Fall from bed	Paralysis 7 days later
Fall	Paralysis 3 weeks later
"Injury"	Paralysis 1 week later
Sprain of ankle	Paralysis later

Of these 47 cases, 16 were rejected on the ground that the history was not sufficiently definite as to the traumatism, leaving 31 cases where a clearly described accident or fall preceded the paralysis immediately or at an interval of a few days.

We do not consider that our cases, suggestive as they are, establish the traumatic origin of anterior poliomyelitis, but that so large a number give a clear history of trauma preceding the paralysis we consider worthy of serious consideration in formulating the etiology. Unless one is disposed to dismiss this evidence as necessarily untrustworthy, which seems hardly justifiable, one of two suppositions seems likely: (1) Either trauma may be regarded as predisposing to infection of the spinal cord, or (2) trauma causes a disease so closely resembling anterior poliomyelitis as to be indistinguishable from it. In 234 cases of infantile paralysis reported to the State Board of Health of Massachusetts as occurring in the state in 1907, there were 35 authentic traumatic histories given by the family physician in attendance at the time after rejecting all questionable ones.[1]

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[1] Lovett, R. W.: General Review of Etiology. Boston Med. and Surg. Jour., July 30, 1908; Trans. Massachusetts Med. Soc. 1908.

[2] THE JOURNAL A. M. A., Jan. 25, 1908.

[3] Holt and Bartlett: Am. Jour. Med. Sc., May, 1908.

The association of trauma and anterior poliomyelitis has not been wholly overlooked in literature. A case is reported by Borckhardt[4] where a child, 1 year old, was scalded in the face by boiling water. Vomiting and fever followed in a few days with paralysis, and four days later death ensued, the autopsy showing the characteristic changes of anterior poliomyelitis. The other cases reported are mostly or wholly those of adults, the class of accidents described being practically identical with those in this series. The cases are as follows: von Leyden,[5] 2 cases; Stark,[6] Perrin,[7] Meyer,[8] Flatley,[9] and Bullen,[10] one case each.

Unusual Onset.—In the analysis of the onset of our cases there separated itself a group of cases where the onset was atypical or associated with other diseases. In six cases the paralysis appeared slowly and gradually, without febrile attack. In eight cases the onset of the usual character followed exposure to cold. In one case the disease manifested itself on the day after the child had been jumping rope to excess. In thirty-five cases it was said to have followed or to have been associated with the diseases enumerated in Table 3.

Table 3.

	No. of Cases.
Bronchitis	3
Bilious attack	1
Teething	2
Nephritis	1
Typhoid fever	5
Scarlet fever	3
Measles	3
Pneumonia	2
Intestinal diarrhœa	8
Rheumatism	5
Diphtheria	2

The diagnosis of these cases is, of course, doubtful, as the original onset may have been mistaken for any of these diseases, and there is no means of knowing whether this diagnosis was made by the parents or by a competent physician.

Two further subdivisions of the general group deserve special mention. Two patients became paralyzed during an attack of boils or abscesses, which is of much interest in connection with what has been said in the bacteriology about experimental septic infection, and one patient was paralyzed in the hospital ward during recovery from an operation for appendicitis. Twenty-three cases were said to have followed cerebrospinal meningitis. It is fair to assume that the majority of these cases of so-called meningitis were merely the routine onset of the disease of rather severe character, but in six cases the character of the meningitis was established by hospital observation and the subject has already been discussed by Dr. W. N. Bullard, neurologist to the hospital.

Summary of Etiologic Evidence.—The disease is generally believed to be of infectious origin, but direct bacteriologic proof is as yet absent. The character of the onset, the epidemic distribution, the apparent contagiousness, and the experimental production of paralysis in animals all point in this direction. The fact that the disease selects by preference children in the first dentition and prevails in the summer and early fall offers a close analogy to the gastrointestinal disease and suggests a possible source of infection in the intestinal tract, possibly from some bacillus contained in milk. It may be that such a bacillus liberates a toxin which is the harmful agent and disappears.

With the evidence offered by our cases we can not be sure that the disease represents infection by one specific organism nor that it is always of infectious origin for it must be remembered that the clinical picture may represent only the reaction of the spinal cord to one of several causes, such as pyogenic organisms, the results of exposure to cold, traumatism, etc. We have not yet sufficient evidence to say whether we are dealing with a specific infectious disease or with a disease of more than one origin.

Sex.—Of the 635 patients, 334 were boys and 301 were girls.

Age.—Table 4 shows the age at onset.

Table 4.

Age.	No. of Cases.
Early	8
Under six months	15
6-12 months	55
1 year (second year of life)	150
2 years	128
3 years	65
4 years	40
5 years	36
6 years	18
7 years	13
8 years	8
9 years	7
10 years	6
11 years	4
12 years	1
13 years	1
Total	555
Not noted	80

Season of Onset.—Most of the cases where the date of onset was noted occurred during the spring and autumn months, as shown in Table 5.

Table 5.

January	8	July	36	Spring	8
February	4	August	43	Summer	17
March	5	September	47	Autumn	13
April	5	October	39	Winter	7
May	6	November	29		
June	13	December	4		

Relation of Severity of Onset to Paralysis.—The character of the onset was tabulated with regard to the degree of paralysis following, to see what, if any, relation existed.

The onset was classed as severe when it lasted over a week, or was accompanied by unconsciousness, delirium or convulsions. It was classed as moderate when it was from a day or two to a week in duration, when the symptoms were not alarming and when the fever was moderate. It was classed as slight when the child was affected by a slight febrile attack for one or two days, when the temperature was but little elevated and the illness apparently trifling.

The paralysis was classed as severe when it was complete in one limb, when it involved more than one limb to any serious degree, or when walking on the paralyzed leg was impossible. It was classed as moderate when important groups of muscles were affected enough to make the child seriously lame, when marked deformity was present, or when it was the cause of moderate disability. It was classed as slight when only one muscle or an unimportant group was affected, when the limb was merely weak, or when serious lameness and disability were absent. Arranged in this way, the results were as shown in Table 6.

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[4] Arch. de méd. des enf., October, 1902, p. 608.
[5] Arch. f. Psychiat., 1876, vi., 271.
[6] Neurol. Centralbl., 1904, xxiii, 14.
[7] Arch. de méd. des enf., October, 1902, p. 608.
[8] München. med. Wchnschr., 1901, No. 5.
[9] Am. Med., 1904, viii, 956.
[10] Jour. Ment. Sc., 1892, xxxviii, 71.

TABLE 6.

Character of Onset.	No. of Cases.	Paralysis. Severe.	Paralysis. Moderate.	Paralysis. Slight.
Severe	98	51	28	19
Moderate	84	25	44	15
Slight	62	11	28	23
No attack at onset	31	2	10	19

From this it appears that a severe onset, as defined above, is more likely to be followed by severe paralysis than by any other type, and that slight paralysis is unlikely (19 in 88). A moderate attack is most often followed by moderate paralysis, with a greater tendency to a severe than to a slight form. A slight attack shows about the same tendency to be followed by moderate or slight paralysis (11 severe cases among 62). Cases in which no onset is noted are most often followed by slight or moderate paralysis with little tendency to the severe type. The same is true of cases where the affection is attributed to traumatism.

The Distribution of the Paralysis in 628 cases is shown in Table 7. (For comparison the composite group generally quoted is reproduced at the right of the table.)

TABLE 7.

	Author's Cases.	Duchene; Seeligmuller; Sinkler; Starr.
Both legs	130	184
Right leg	216	134
Left leg	239	133
Right arm	5	30
Left arm	5	23
Both arms alone	0	9
All four extremities	3	51
Arm and leg, same side	15	48
Arm and leg, opposite side	7	10
One arm, both legs	2	15
Abdomen with other paralysis	6	

Our figures show paralysis of one leg to be nearly four times as common as paralysis of both legs, whereas the other figures show it to be twice as common; both sets of figures show paralysis of the arm and leg of the same side to be more common than crossed paralysis. Paralysis of the abdominal muscles was recorded as present in six of our cases and probably was overlooked in the examination of others.

Affection of Individual Muscles of the Leg.—Four hundred and seventy-eight cases where the data were sufficient were tabulated as to the frequency of affection of the individual muscles in paralysis of the leg. The examination was not made by electricity, but by ascertaining whether or not the functions of a certain muscle or group of muscles could be performed in response to voluntary effort. For example, the patient was told and shown how to abduct the foot; when the motion was being attempted the finger was placed on the peroneal tendons. If the motion was properly performed, the muscle was classed as "normal"; if some contractile power was present, but if motion was imperfect, it was classed as "weak"; if no power of contraction existed it was classed as "paralyzed." For purposes of tabulation the muscles in the lower leg were divided into groups as outlined in Table 8.

TABLE 8.

Anterior	Extensor longus digitorum. Extensor proprius hallucis.
Posterior	Gastrocnemius. Flexor longus digitorum. Flexor longus hallucis.
Internal	Tibialis anticus. Tibialis posticus.
External	Peroneus longus. Peroneus brevis.

The number of cases in which the different groups of the lower leg were affected, no case being entered in two groups, is shown in Table 9.

TABLE 9.

Anterior	92
Internal	40
Posterior	45
External	31
Anterior and internal	29
Anterior and external	27
Anterior, internal and posterior	14
Anterior, external and internal	18
Posterior and internal	34
Posterior and external	7
Posterior, internal and external	8
Tibialis anticus	95

The chief practical lesson to be drawn from this analysis is that the internal muscles are affected more frequently than the external, and the anterior more often than the posterior. Of combinations into which the internal muscles entered, there were 238 cases of paralysis against 91 for the external muscles. In the same way there were 180 such combinations in which the anterior entered against 108 for the posterior. The quadriceps muscle of the thigh was affected alone or in combination with muscles of the lower leg, not counting cases of complete paralysis, in 305 legs, being the muscle most frequently affected in either thigh or calf. The tibialis anticus and anterior muscles of the lower leg came next in frequency, and the short toe flexors were the least likely of all to be affected, frequently persisting in legs otherwise wholly disabled.

The anterior muscles of the thigh are affected much more frequently than the posterior hamstring muscles. When only one hamstring muscle is affected it is more often the internal than the external. The sartorius muscle frequently escapes when the quadriceps femoris is paralyzed, and we have never found the sartorius muscle paralyzed alone. The motor center for the sartorius is given by Edinger as one segment higher than that of the quadriceps.[11] Except in cases of extensive thigh paralysis the sartorius muscle is likely to be found intact, a matter of some importance in the question of treatment, as it may be substituted by operation for the quadriceps.

As to the relative frequency of the affection of internal and external thigh rotators, the fact that the psoas and sartorius muscles frequently escape, makes observation of this somewhat inaccurate, for the reason that the latter act as rotators. Therefore, although our figures apparently show a more frequent paralysis of the internal than of the external rotators, and thus confirm general clinical observation, we regard it rather as indicating that the muscular balance was disturbed in that direction than that especial muscles were paralyzed. Involvement of the adductor thigh muscles is far more common than that of the abductor muscles.

Complete Paralysis.—There were 95 instances of complete paralysis of the thigh on one or both sides; 37 cases were recorded as affecting only one side. In 34 of these the paralysis was also complete in the calf of that leg. The right arm was involved once, and the abdominal muscles twice in this group. Fifty-eight cases showed complete paralysis of the lower extremity on one side and some involvement of the other. In 26 of these the paralysis was complete in both thighs and both calves. In 31 cases the paralysis was not complete on both sides, in 10 affecting only the quadriceps of the least affected side. In one case there was no note of the muscles affected. Both arms were paralyzed in 2 cases, one arm in 3 cases, the hip was dislocated in 2 cases, and the abdominal muscles paralyzed twice in this group.

Paralysis of the Arm.—Paralysis of the upper arm was much more frequent than paralysis of the forearm.

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[11] Bau der nervösen Centralorgane, Leipsic, 1896.

the deltoid apparently suffering most frequently, often in connection with the biceps, triceps, or scapular muscles, or with all of them. Paralysis of the forearm was comparatively uncommon.

In general, the paralysis was more often symmetrical than asymmetrical, roughly speaking, when both sides were affected. In complete paralysis of one leg it has been seen that complete or severe paralysis of the other side existed in nearly two-thirds of the cases (58 double to 37 single). When the paralysis was partial in one leg and the other was affected, the paralysis in the second leg was more likely to be external than internal if the paralysis of the first leg was external.

Deformities.—These are largely, if not wholly, unnecessary, and are of two kinds—(a) static deformities, resulting from superincumbent weight coming on structures imperfectly supported by the paralyzed or weakened muscles or by the weight of some part dragging and stretching the structures; such are valgus deformity of the foot, hyperextension of the knee, dislocation of the hip, scoliosis, dislocation of the shoulder, and some cases of talipes equinus.

The second class of deformities (b) are to be classed as muscular and result from the action of muscles whose antagonists are paralyzed or weakened. These unopposed muscles cause distortions of one or more joints by their continued pull, which is not antagonized by their paralyzed or weakened opponents, a proper muscular balance being required for joint equilibrium. Such deformities are equinus, varus and calcaneus deformities of the foot and their combinations with those cases of valgus caused by paralysis of the tibials, one or both, flexion deformity of the knee and hip, and cases of scoliosis where the muscles of one side of the spine are paralyzed or weakened. These cases are in all instances accompanied by muscular contractions on the shortened side.

It can be predicted in advance in most instances what a definite muscular paralysis will produce in the way of deformity. For example, in a flail leg unable to bear weight the constant plantar flexion of the foot will induce talipes equinus; if the patient can bear weight on a generally weakened leg a valgus will result from improper support of the foot from the tibial muscles. If the anterior muscles are paralyzed, an equinus deformity will ensue with contraction of the tendo Achillis. If the posterior muscles are paralyzed, the patient will walk on his heel and a calcaneus deformity be present.

From the study of our cases we have formulated the following table of deformities (Table 10) of the foot and their causes:

TABLE 10.

Deformity.	Resulting from paralysis of.
Varus	peronei.
Valgus	anterior tibial. posterior tibial. both tibials. flexor longus hallucis. whole leg (weakened). complete paralysis.
Equinus	anterior muscles, paralyzed or weak. complete paralysis (from dangling).
Equino varus	anterior muscles. (with persistence of flexor longus hallucis). anterior and external group. paralysis apparently complete (probably toe flexors remaining).
Equino valgus	anterior and internal muscles. anterior muscles and weight bearing.
Calcaneus	posterior muscles.
Calcaneo valgus	posterior muscles and one or both tibials.

TREATMENT.

The matter of treatment will be discussed only in general terms, for no tabulation of results in so large and varied a group of cases would be practicable or of great value.

Stage of Onset.—The stage of onset represents an acute hematogenous myelitis. Quiet in bed is essential, and beyond this it is doubtful if much is accomplished by the administration of ergot and similar drugs or by blisters or other counter irritants applied to the back. As there is a possibility that the absorption of toxins from the intestinal tract is an important factor, it would seem reasonable to empty the intestines at the onset by catharsis in all cases. From the onset paralyzed limbs should be supported in a normal position, and muscular dragging and stretching should be avoided. Pain and sensitiveness, when present, generally last only for the first few days and will not long prevent the use of supports. A foot can be supported at right angles to the leg by splints of wood, tin, or plaster of Paris. It is doubtful if the use of massage and electricity in the first days after the attack is advisable. It would seem wiser to allow from one to three weeks for nerve centers to quiet down before stimulating their peripheral connections. How long the period of rest to the limbs should be carried out can not yet be stated, but will probably be answered definitely by the results observed in the recent New York epidemic.

The Stage of Established Paralysis.—A localized hematogenous myelitis has attacked the cord and has destroyed more or less at random certain areas of spinal nerve centers. Unless the cord lesion has been extensive (for the reasons discussed in the opening section) the chances are rather against the total destruction of all the centers and associations of any large number of muscles, some centers or associations having perhaps escaped.

It is, therefore, obvious that in the stage of established paralysis, whether early or late, it is important to prevent unnecessary muscular deterioration and to utilize, so far as possible, the unaffected cells in partly affected centers.

1. It is important to remove deformity by a preliminary operation when it is present to any considerable degree and not to correct the deformity and perform the tendon transfer at one operation.

In other words, to prevent (a) muscular stretching, (b) muscular disuse, which are both obviously harmful to the well-being of the muscles, and (c) stimulate to functional activity muscles partly paralyzed or simply disused.

It is coming to be the experience of those who deal with the later stages of infantile paralysis, and it has been particularly evident in this series of cases, that there exists in many paralyzed limbs a possible amount of muscular power that is not suspected and will not be available unless cultivated and developed. For example, it has several times been our experience in this series to examine cases of paralytic talipes equinus of long standing where there was no power in the anterior muscles of the lower leg. The tendo Achillis has been divided, and the foot put up at a right angle in plaster for three or four weeks. When this plaster has been removed, the anterior muscles have been found to functionate and from that point on to have recovered power. They had been stretched and out of balance before the operation; when properly balanced and allowed to shorten they possessed function.

The absence of function in a muscle or group of muscles does not necessarily mean paralysis, even in the later stages of the affection, as long recognized by the neurologists. This paper becomes, therefore, a plea for the more persistent attempt to use other measures in addition to braces and operations in the treatment of these cases.

(*a*) *Prevention of Muscular Stretching.*—The harmful effect of stretching muscles in paralyzed limbs was dwelt on forty years ago by C. F. Taylor,[22] but has not been sufficiently remembered. He wrote as follows:

> Any position of a limb which allows the extensor muscles to become shortened must inflict a worse damage on the flexors by keeping them extended till they lose their remaining irritability and become degenerated. Now, we have another fact connected with these cases when they have arrived at the stage of deformity, viz: The difficulty of treatment consists much less in relaxing shortened muscles than in giving tone and strength to their antagonists—the lengthened and weakened ones. Indeed, it is this, in the destruction of all remaining muscular irritability, and in many instances the destruction and entire loss of the substance itself of the expanded muscle, which constitutes the principal anxiety in treating this class of deformities. As this important consideration has been many times neglected, if not entirely lost sight of, let us consider the effect of simple extension on the power and functions of muscular tissue in its healthy state.
>
> In reference to this the following propositions are believed to be true, viz.:
>
> First. To retain a healthy muscle in an expanded state for a certain length of time is to diminish or destroy its irritability and contractible force.
>
> Second. To extend a muscle while in the act of contracting, that is, to overcome it, is, at once, to destroy its irritability and force.
>
> Having shown that position of the limbs alone is sufficient to cause deformity even in the healthy subject, it only remains to inquire: Is this actually the case in infantile paralysis? The reply must be affirmative.

The importance of supporting the limb during the early stage in a correct position has been alluded to. In the stage of established paralysis orthopedic apparatus is intended not only to make locomotion possible, but to prevent deformed positions in standing and walking and with this to prevent muscular stretching. The foot should be neither in valgus, calcaneus, or varus when weight is borne, but supported in the proper plane at right angles to the leg. The knee should be neither in a flexed nor hyperextended position in weight-bearing, but straight. A very good general rule for the use of supporting apparatus is that it should be used when weight-bearing induces a deformed position in the foot or knee, because such deformity not only leads to permanent distortion of the bones, but is necessarily accompanied by prolonged muscular stretching and may lead to contraction deformity of the antagonistic, not stretched muscles.

(*b*) and (*c*) *The prevention of muscular disuse and the stimulation of nervous centers* in the cord in partially destroyed groups are accomplished together by the same measures. For a muscle to lie idle and not to contract is bad for it whether it is paralyzed, or partially paralyzed, or not paralyzed at all. It will deteriorate locally and its functional cord center will not be stimulated to establish new associations or develop any latent power. But as a prerequisite to all treatment of this kind it must be assumed that the foot is properly supported by apparatus in walking, if without it it falls into a position of deformity. (The use and function of supporting apparatus is discussed in text-books on orthopedic surgery.)

Having thus supported and held the paralyzed limb in a position fit for functional use, massage and electricity are to be regarded as measures to improve the condition of the muscles and to lead toward functional use of partially paralyzed, stretched or disused muscles. Of themselves they are not curative or especially helpful, except in so far as they promote muscular well-being and lead to muscular contractibility.

Active muscular contraction or muscle training is, in general, the most universally applicable therapeutic measure at our command and one insufficiently appreciated. Having worked with massage or electricity or both, for the development of the muscle or muscles an attempt should be made as soon as it becomes possible, to get the partly affected muscular group to contract in response to a voluntary impulse, at first being satisfied with only a quiver in the fibers at the attempted movement, but later affording aid in the attempted movement by the hand, by some improvised apparatus, such as a strap or bandage, or by the use of some mechanical apparatus, such as those of the Zander system, those used so extensively in Germany, or by some simpler form. In short, the effort is to be made to make the partially affected muscles contract without being overweighted and, having learned to contract, to educate them to use more and more power until they perform useful function.

To repeat this most important point, mechanical or conservative treatment should consist not only in supporting the paralyzed limb by an adequate and accurately fitted brace, but should push on to the development of muscles apparently paralyzed, but really with a possibility of function.

Tendon Grafting or Anastomosis or Transfer.[23]—Although there were 120 cases of tendon transfer in the present series, they will not be analyzed here, for the reason that a report on this subject has already been made from the hospital and because the limits of the paper are such that it is impossible to consider every phase of the subject, and, as this part of the subject is adequately treated in current literature, we have chosen rather to devote our space to those aspects of the subject which have received less attention. The following practical conclusions have, however, been reached from the study of these cases:

1. It is important to remove deformity by a preliminary operation when it is present to any considerable degree and not to correct the deformity and perform the tendon transfer at one operation.

2. The operation should not be performed on very young children.

3. Periosteal implantation yields better results than when tendons are united to tendons.

4. Simple operations are more satisfactory than complicated ones.

5. It is not advisable to turn sharp corners with transferred muscles, but to secure as straight a line as possible of muscular pull from origin to insertion.

6. The substitution of small muscles for large ones

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[22] Infantile Paralysis, Philadelphia, Lippincott, 1867.

[23] Assn. franç. de chir., 20th cong., 1907, pp. 380-574.

is likely to be unsatisfactory, e. g., one of the peroneal muscles is rarely a satisfactory substitute for the gastrocnemius.

7. Tendons must be inserted on the stretch and the foot maintained for some weeks in a position of overcorrection.

8. The use of silk tendons has proved practicable and satisfactory.

9. Finally, the most striking conclusion that has been impressed on us is that the after-treatment is as important as the operation, if a successful result is to be obtained.

To perform a tendon transfer, fix the leg in plaster for some weeks, until muscular atrophy has become marked, and then to allow walking unprotected is bad the sixth week on and the newly transferred muscle is trained to its new function shortly afterward, and unless this massage and training are carried over some weeks, the best results can not be expected. No matter how good the operation, it must be followed up or the operation of tendon transfer will be regarded by the individual operator as a much overestimated procedure; if, on the other hand, he performs a sound and reasonable operation, and has his patient properly treated over a period of about six months, he will find it, in a large proportion of cases, one of the most satisfactory procedures in operative surgery. No importance can be attached to published results of tendon grafting unless there is published at the same time an account of the after-treatment. If it is lacking, poor results are explained.

The method followed at the Children's Hospital has been as follows: The plaster put on at the operation is worn for six weeks. It is then split, removed for massage, and reapplied. About two or three months after the operation a brace is applied which shall support the foot in a position to relieve strain on the transferred tendon, and muscle training is begun. Walking is allowed from three to six months after operation in this brace, when the tendon seems to possess enough power to warrant it, and the brace is discontinued when circumstances warrant it. At the Hospital Out-patient Orthopedic Clinic a department for massage and muscle training has proved a necessity and is devoted wholly to the treatment of infantile paralysis, both operative and non-operative. It has proved of such great use that it is planned to extend it in the near future and add simple mechanical appliances to amplify the work.

Arthrodesis.—The operation of arthrodesis was performed fifty times in this series, but will not be dwelt on in detail here, for the same reasons given in speaking of tendon transfer. The following conclusions have been reached from the study of these cases: The operation in the ankle joint is useful in properly selected cases. It has not been used in the knee. It has been both successful and unsuccessful in the hip, and fairly satisfactory in the shoulder, although here tendon transfer is advisable when possible. The use of arthrodesis in the ankle by means of silk has proved satisfactory and is preferable in children to the more destructive operation of removing the joint surface. The cutting away of the joint surface in young children is, at times, followed a few years later by a distortion of the foot into a position of varus. The latter operation should not be performed in the ankle on children much under the age of puberty.

Nerve Anastomosis.—The question of the value of nerve anastomosis is still *sub judice* and the operation was performed only once, with negative result, in the series reported. About 20 cases have been reported in the literature, which are given in Table 11, which presents the results of available recorded operations performed for paralysis of the limbs. The brilliant results reported in some of the cases would seem to promise a future for the operation.

TABLE 11.—RECORDED OPERATIONS FOR PARALYSIS OF LIMBS

Name of Observer	Variety of Paralysis.	Operation	Result.
1. Peckham[24]	Peroneal .	Int. into ext popliteal	Marked improvement.
2. Young[25].	Valgus	Branch to ant. tib into musc. cut	Great improvement.
3. Taylor[26]	Equinus .	Ext. into int popliteal	More power.
4. Taylor.	Equinus .	Ext. into int popliteal	Can flex foot
5. Spiller and Frazier.	Ant. tibial .	Ant. tib. into musc cut	Return of normal power.
6. Spiller and Frazier	Peroneal.	Ant. tib. into musc cut	No improvement
7. Murphy[27]	Talipes	Ext. popl. into int. popl	Improvement.
8. Murphy	Peroneal.	Musc. cut into ant tibial and tenoplasty.	Time too short for report.
9. Hackenbruck[28]	Equinus ..	Ant. into ext popl	No result—Keloid.
10. Hackenbruck	Equino-varus	Ant. into ext popl	No result—Keloid.
11. Hackenbruck	Equinus ..	Ant. into ext popl	Excellent result.
12. Tubby[30].	Equino-varus	Nerves of gastrocn soleus into ext. popl	Return of movement.
13. Tubby	Equino-varus	Nerves of gastrocn soleus into ext popl	Return of movement.
14. Tubby..	Equino-varus	Ext. into int popl	Unsatisfactory.
15. Spitzy[31]..	Anterior and exterior	Ext. into int popl	Good result.
16. Spitzy.	Obstetr. paral.	Median into radial	Remarkable result
17. Tubby	Erb Duchenne..	Ext. into int branches of brachial plexus	No definite result.
18. Harris[32]	Deltoid.	Fifth into fourth cerv nerve	Good result.
19. Peuguiez[29]	Circumflex	Radial into circumflex	Too recent.

CONCLUSIONS.

Infantile paralysis is a less formidable affection than is generally believed, partial paralysis is common, disused and stretched muscles appear to be paralyzed, but possess a possibility of function. In addition to mechanical treatment, an attempt should be made by massage, electricity and especially by muscle training to wake to activity the remaining cells in partly destroyed groups and thus to secure muscles which perform function. After tendon transfer, the development by muscle training of the transferred tendons is essential to good results, and without this the percentage of failure will be large.

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24. Providence Med Jour., January, 1900, p. 50.
25. Am Jour. Orthop. Surg., i, 27.
26. New York Med. Jour., 1906.
27. The Journal A. M. A., Jan. 21, 1905.
28. Surg., Gynec. and Obst., April, 1907.
29. Assn franç de chir., 20th cong., 1907, p. 444.
30. Brit. Med. Jour., 1906.
31. Ztsch. f. Orthop. Chir., 1905.
32. Tr. Clin. Soc., London, 1905.

ABSTRACT OF DISCUSSION.

Dr. Harry M. Sherman, San Francisco: The one part of the paper which I am inclined to discuss is that relating to *tendon transplantation* for the correction of deformities incident to the paralysis. So far as the technic of the operation is concerned, I prefer the Langer method, which substitutes for the tendon of the paralyzed muscle, which is a paralyzed tendon, a silk tendon, which is quite as good as a normal tendon, if it is large enough and properly *fastened to muscle* and bone. The same is true of silk ligaments.

In dealing with the matter of paralyzed muscles we have in the first place to remember that no one muscle can do the work of two or three muscles, and if we attempt to make it do so we overload it. Moreover, if we move the attachment of a live muscle to the insertion of a paralyzed muscle we weaken the limb by the loss of the live muscle in its normal place. So that at the end we can not expect a normal limb, *but can only look for a limb weaker* in more than one of its components. In general we select to replace paralyzed muscles with other muscles which have a similar and nearly synchronous action with the paralyzed ones. If we are forced to make less obvious selections, as taking a flexor to do extensor work, we are not only overloading the muscle, but we are complicating the condition and lessening the expectation of a satisfactory result. The rearrangement, however, may tend to prevent the development of deformity, or the redevelopment of a deformity which has once been corrected, and with the aid of some special shoeing or of a simple concealed brace a gait may be possible with a minimal amount of limp.

In legs which are below par as regards their nourishment—for the trophic nerves are implicated with the motor nerves, and the motor nerves have been paralyzed—in these cases it seems not unlikely that growth may be stimulated by the use of the congestive bandage, applied according to the method of Bier. In two or three of my cases which I have been able to watch, and in which I resorted to this method, the paralyzed leg is growing at a little more rapid rate than its mate on which no congestive bandage has been placed. It is possible that thus a weak leg may be converted into a somewhat stronger one.

Dr. E. H. Ochsner, Chicago: Dr. Lovett calls attention to a large series of cases observed by one group of men in one locality. This point is of the utmost importance. Six hundred cases thus studied allow of deductions of far greater value than can be drawn from a much larger number of cases observed and classified by many men in various parts of the world. Again, the distribution of the groups of motor cells and the distribution of the circulation of the cord is a subject which is deserving of much attention, because it has an important bearing on the treatment of these cases.

I agree with Dr. Lovett most thoroughly that we should pay especial attention to the intestinal tract in the early treatment of these patients. Unfortunately, most of these cases are not definitely diagnosed during the first few days of the illness, but whenever the diagnosis is obscured and when there is a possibility of a beginning anterior poliomyelitis I would go even a step further than has Dr. Lovett and would contend that the bowels should be thoroughly evacuated by a large dose of castor oil, so as to render the intestinal canal as free as possible of all toxic material. I fully agree with Dr. Lovett that all deformity should be overcome before any attempt is made at tendon transplantation and also that we should not attempt to do too much at one time. I believe that it is very much safer to do one or two transplantations first, then observe what coordination will do, and help out with a secondary operation if necessary. I have repeatedly seen cases in which I felt convinced that too much had been done at the first operation. When a patient with poliomyelitis comes to me for treatment there are always two things which I try to accomplish: one is the re-establishment of muscular equilibrium and the other is proper coordination. When the operative procedure is completed the flexors should be exactly as strong as the extensors, the abductors as strong as the adductors, and if this ideal can be accomplished it is surprising with how little innervation one can still secure a reasonably useful limb. It is this point that I especially want to emphasize.

The general practitioners and neurologists in looking over their cases if they find the muscles very weak are very apt to conclude that an operation is not indicated. It is not so much a question of the innervation and development of the muscles, provided there is some innervation, as it is a question of whether muscle equilibrium can be re-established. I have found that after extensive operations some patients find it impossible to coordinate, to adjust themselves to the new conditions. If in such a case one will incase all of the joints in light but rigid plaster-of-Paris casts, if now one joint is let out of the cast the patient will learn to coordinate this group of muscles, and if one joint after the other is let out one can often get very good results in apparently almost hopeless cases.

Dr. R. W. Lovett, Boston: The two points that I wish particularly to make are: 1. The fact that a muscle will not functionate does not necessarily mean that it is paralyzed. It may be stretched and it is possible that it may be made useful to the patient if it is attacked properly. 2. Tendon-grafting alone will not do. The after-treatment is very important. To do tendon-grafting and to put up the leg in plaster for six or eight weeks and to allow the patient to walk is to invite a poor result. It is being recognized everywhere that the after-treatment is just as important as the operation, and that much of the criticism of the operation is wholly due to the absence of after-treatment.

CHEILITIS EXFOLIATIVA.*

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LOUISVILLE, KY.

I think that Dr. H. Radcliffe-Crocker gave the above disease an appropriate name, since the most prominent symptom is exfoliation. Some authors are inclined to recognize it as a form of eczema, as did Besnier-Doyon, who called it *eczéma exfoliant des lèvres;* some insist that it acts like psoriasis; thus Bateman calls it psoriasis labialis. Since a few cases were associated with seborrhea, Rayer is inclined to think this disease a part of seborrheic process and calls it *pityriasis des lèvres.* Drs. Hyde and Montgomery in their text-book, insist that this affection should not be confounded with eczema, and call it "cheilitis glandularis apostematosa." So do Stelwagon and Volkmann. Lately Dr. Hyde recognized this disease as an instance of infective folliculitis.

SYMPTOMATOLOGY, PATHOLOGY AND TREATMENT.

From all the inquiries I have made I find that so little has been written about cheilitis exfoliativa that very few of the text-books go into the details of this disease. There is no doubt that many cases can be found; it is only to be regretted that some of the general practitioners, not knowing this to be a rare form of disease, pass it up as an insignificant affection that does not need much attention, as chapped lips or fever blisters, for instance. To describe this disease would be a repetition of the little that has been written about it, the uncertainties of its etiology and pathology, and the failures of the former forms of medical treatment that had been advocated. The symptomatology of the disease is uniform. The lower lip is usually the one that is affected. The affection always starts with an erythema or edema, the muciparous glands being subsequently involved. Follicular openings may at times follow with a scant exudation of mucopurulent secretion with excessive epidermis formation and cornification. In one of my cases the skin of the chin became erythematous. Later on the thick scales become loosened (process of exfoliation) and the lip underneath it is dry, glazed and at times fissured. I never found, as in Duhring's cases, that the disease was associated with a depressed state of the nervous system. Seborrhea of the scalp was not associated with any one of my cases. Clinically the disease is closely allied to Paget's disease (eczema of the nipple). Like the latter disease, it may start with a sclerotic eczema: later it may assume the form of a dry scaly or branny crustation affecting the entire surface of the lower lip, which is darker colored, firmer and less pliant and elastic than its upper fellow. It apparently has all the phases of eczema of the nipple and at times, like that affection, may become malignant. Perhaps in many a case of epithelioma of the lower lip the initial symptoms were the same as found in cheilitis exfoliativa. In Jamieson's case of cheilitis exfoliativa the thickening of the prickle-cell layer was so well marked that Leith thought it to be a mild form of epithelioma.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

Little, however, is known of the pathology of the disease. No pathogenic microbe was ever isolated from a case, though attempts have been made in that direction. Though Dr. Hyde recognizes this disease as an instance of infective folliculitis, Dr. Heidingsfeld was right when he wrote me:

"Researches in this direction, as far as I am able to determine, are inclined to show that parasitology is rather accidental than causal in nature."

From my own observation I am forced to look on cheilitis exfoliativa as a clinically very important and pathologically most interesting form of keratosis, as found in eczema of the nipple or in other dermatoses in which excessive epidermis formation and cornification are the chief features. Whether this process is primarily a hyperplasia of the rete with induced secondary changes, or whether it originates as an inflammation of the papillary layer of the corium, producing cell infiltration and vascular dilatation, is only a matter of speculation.

Though therapeutic results in former years have not been the most gratifying, the latest reports are very encouraging. Mild antiseptics and the *x*-ray, if they did not accomplish a radical cure, have greatly benefited the disease. Dr. Hyde had best success with very cautious use of the *x*-ray and local antiseptics. Dr. Gilchrist asserts that the *x*-ray treatment is the most efficacious. He applies enough to produce a reaction. In two private cases he used the *x*-ray and the result was a cure in both instances. Pure carbolic acid was used by him in one case with great benefit but no cure. In my own cases I used different methods, and the best way to describe them is to give a summary of my cases up to date:

REPORTS OF CASES.

Case 1.—*Patient.*—W. P., aged 39, was referred to me by Dr. T. Kinnard of Lexington, Ky. He was a farmer and stock-raiser. His family history was good. He denied ever having syphilis, but had suffered from leucokeratosis buccalis for over five years. While the patient was sent to me for leucokeratosis buccalis only, his lower lip had a typical form of cheilitis exfoliativa. Under 15 per cent. solution of nitrate of silver by cataphoresis the lip got entirely well, while the leucokeratosis buccalis persisted, though greatly improved.

Case 2.—*Patient.*—H. F., a local dry-goods merchant, aged 46, consulted me in March, 1907. His family history was good. He had never had any venereal disease. He was an inveterate smoker. Within the last two years his lower lip had begun to feel tight and itchy. At first he thought he had chapped lips, but when he noticed exudation, crustation and exfoliation, he consulted several physicians and one of them pronounced the growth malignant. On examination I found it to be a usual type of cheilitis exfoliativa. The mucous and salivary glands of the mouth were not affected. After fourteen *x*-ray treatments the patient was discharged cured. I saw him two weeks ago and not a sign of the disease was noticeable except that the skin on the lower lip was of darker color than the upper lip.

Case 3.—*Patient.*—S. H. R., Shepherdsville, Ky., aged 35, was referred to me by Dr. W. Boggess. The patient's family history was good. He had always enjoyed good health. The symptoms were identical with those of Case 2, except that exfoliation was more pronounced. The patient was seen by Dr. Heidingsfeld, who pronounced the disease lupus erythematosus. The examination was made in the evening and was a hasty one. As the patient could not come to my office regularly I applied a 15 per cent. solution of nitrate of silver, followed by Lassar's paste (the one with salicylic acid) daily. Later on I used the *x*-ray. The patient improved.

Case 4.—*Patient.*—A whisky drummer, aged 48, referred to me by Patient 2. It is a peculiar thing that patients with a certain disease always know people suffering from the same affection. The patient had nothing of importance in the medical history except that he suffered from rheumatism. He complained of dryness in the mouth and contraction of the lower lip. The symptoms were the same as in all previous cases except that the muciparous glands were more involved, the exudation and crusting more pronounced. As the patient greatly objected to *x*-ray exposures, I used tincture of iodin by cataphoresis and Lassar's paste as a daily application. The patient showed great improvement.

In addition to the foregoing cases, two more cases were reported to me, one by Dr. W. Boggess and one by Dr. F. T. Fort, both of this city.

How long the relief or cure may be expected to last I can not say. There is no doubt in my mind that some cases will relapse in spite of energetic and seemingly successful treatment. When the true pathology of the disease is established we may not have to work in the dark, as we do now. For the present all attempts to arrive at the real pathologic basis have amounted to naught.

THE PIGMENTATIONS OF THE MUCOUS MEMBRANE OF THE MOUTH.*

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CHICAGO.

The pigmentations of the mucous membrane of the mouth have not been sufficiently studied. In many instances I have noted that histories of reported cases, complete in other respects, were lacking in the simple statement that pigmentations of the mucous membrane of the mouth were present or absent.

The diseases of the mucous membrane of the mouth were made the subject of a symposium at the twenty-eighth annual meeting of the American Dermatological Association without the pigmentations being mentioned in any of the papers presented or in the discussion. Our knowledge of pigmentations of the buccal cavity is meager, partly because they are rare and partly because they are not sought for in patients presenting pigmentary lesions of the skin.

Dentists inform me that they often notice pigmentations of the mouth without considering their significance. It is only through the combined efforts of many observers that our knowledge of a subject which has attracted so little attention as has this, can be augmented.

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* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

With the hope of stimulating my colleagues to search constantly for pigmentations of the mucous membrane of the mouth and also to induce them to report their cases, I venture to present what little I may on the subject.

CONGENITAL PIGMENTATION.

The most common form of congenital pigmentation of the skin is the soft mole which may be simply a pigmentation of the skin or which may present itself as a mammillated nodule with or without pigmentation and hairy growth. Oppenheim[1] has reported a case of soft mole affecting the conjunctiva of the eyball and extending even over the cornea, but I find no cases on record in which soft moles were present in the mucous membrane of the mouth. Even in cases in which the cutaneous surface was studded with pigmentary moles, as in the cases reported by Danlos, the mucous membrane of the mouth was free from moles.

In spite of the negative literature, I am convinced that such growths occur in the mucous membrane of the mouth. I have observed one case.

The patient was a woman, sixty years of age. All her life she had had a nodule of the mucous membrane of the hard palate, situated in the middle line of the roof of the mouth midway between the teeth and the soft palate. It had steadily increased in size in recent years. At the time of observation it was a flattened elevated mammillated tumor the size and shape of a lima bean and not pigmented. There were a few pigmentary moles of the skin present.

Reasoning a priori, if pigmentary soft moles occur in the mucous membrane of the mouth, we should expect them to present a darker shade of pigmentation than corresponding skin lesions because nearly all pigmentations of mucous membranes are darker than analogous cutaneous chromatoses. They would usually be melanotic. We should not expect that pigmentary moles would always be present at the time of birth, for the reason that they and many other developmental defects of the skin, such as benign cystic epithelioma, frequently present themselves clinically for the first time in adult life. Further, we should expect endotheliomas to develop in some cases in such areas of pigmentations.

Roy[2] has reported a case of melanosis of the palate which, after existing twenty years, became sarcomatous. The microscopic appearance which the growth presented in this case was that of an endothelioma or what Unna calls a nevo-carcinoma. As the endothelioma is a special form of malignant disease which usually develops on moles, it is extremely probable that the melanosis present in this case for twenty years prior to the appearance of the malignant disease was a mole.

Whitfield[3] showed a woman with anomalous pigmentations of the mucous membrane of the mouth which he did not believe were moles because they did not date from childhood. These pigmentations may not have been moles, but the reason he assigned is entirely insufficient to exclude this possibility of diagnosis.

The pigmentations of xeroderma pigmentosum affect the vermilion border of the lips[4] (Nicolas' case) but they have not been observed in the mouth.

The fibroma molluscum tumors of von Recklinghausen's disease frequently occur in the mouth, but the pigmentations affecting the mucous membrane must be quite rare, as they have not been present in any of my cases, and the only mention of them in recent literature is the report by Oddo,[5] who describes them in two cases as well-defined areas of pigmentation affecting various parts of the mucous membrane and resembling the pigmentations which may be seen in the mouth of dogs.

ACQUIRED PIGMENTATION.

Traumatic.—Where injury produces hemorrhage into the mucous membrane, pigmentations may remain long after the effusion of blood has been absorbed. It is possible that such pigmentations may be permanent, but ordinary injury to the mucous membrane from rough teeth or other mechanical or chemical irritation does not cause pigmentation.

Addison's Disease.—The pigmentations of the mucous membrane of the mouth in this disease are usually not the same shade of bronze-color as is the skin, but consist of circumscribed areas of melanotic pigmentation. They are rarely absent and are of great diagnostic importance.

Akanthosis Nigricans.—The skin lesions of this disease are warts and pigmentations. The mouth is seldom free from lesions, but the lesions are not pigmentated, they are papillomatous and warty excrescences.

Arsenical Pigmentations.—Although arsenic frequently causes cutaneous pigmentations, there are no cases on record of the drug producing pigmentations of the mouth. Audry[6] reported a case of pigmentation of the mucous membrane of the mouth caused by arsenic in 1896, but subsequently on postmortem examination it was found that the patient had Addison's disease and a note correcting the error was published in 1898.

Lichen Planus.—On disappearing this disease leaves brown or slate-colored pigmentations of the skin. The disease usually affects the mucous membrane of the mouth, and within recent times Dubreuilh,[7] Hyde,[8] Lieberthal,[9] and others have described the mouth lesions of this disease, but none of these authorities mention pigmentations of the mucous membrane of the mouth as lesion relics. In none of the cases that I have had the opportunity to examine were there pigmentations present. I have examined one patient who was rarely free from buccal lesions during ten years and still there were no pigmentations present. Danlos has published a report of a case in which there was one large plaque of slate-colored pigmentation present. There was doubt as to whether the pigmentation was caused by lichen planus; it might have antedated the disease.

Scleroderma.—Stelwagon emphasizes the fact that pigmentation is frequently a lesion relic in scleroderma. Audry[10] has reported a case of scleremia (a term used to designate those cases in which the disease extends much deeper than the skin producing a rigidity of the muscles) in which ill-defined plaques of pigmentations were present in the mucous membrane of the cheeks.

Phthiriasis.—Thibierge[11] and a number of others have observed melanotic pigmentations of the mucous membrane of the mouth in cachectic subjects with cutaneous brown pigmentations. The fact that such buccal pigmentations occur only in cachetic individuals suggests the thought that hemochromatosis is the cause of such pigmentations rather than pediculi per se. This possibility of diagnosis has been excluded by the absence of iron in excised tissue of the mucous membrane in the case of Le Play and Dehu.[12] Osler[13] says that whenever hemochromatosis, either with or without diabetes, is suspected, the correctness of the diagnosis *intra vitam* will be made much more probable by removal of portions of the pigmental skin and the finding (by the potassium ferrocyanid test) of iron-containing pigment in the cells of the sweat glands and of the ochre-yellow in the muscle fibers of any blood vessels that may be present by the use of hemofuschin. That pigmentation is actually caused by pediculi is shown by the fact that *Pediculi pubis* cause blue pigmentations of the skin, so that, with hemochromatosis excluded, it is extremely probable that *Pediculi corporis* produce brown pigmentations of the skin and black pigmentation of the mucous membrane of the mouth. Cutaneous brown pigmentation will quickly disappear in these cases by the use of bichlorid baths, the method formerly employed to differentiate certain cases from possible Addison's disease. Hemochromatosis produces pigmentation of the skin, but no special attention has been paid to the mucous membrane of the mouth.

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[1] Deutsch. med. Wchnschr., 1903, No. 8.
[2] Laryngoscope, 1907, p. 868.
[3] Brit. Jour. Dermat., 1907, p. 203.
[4] Nicolas: Ann. de Dermat. et de Syph., 1906, p. 537.
[5] Ann. de Dermat. et. de Syph., 1906, p. 803.
[6] Ann. de Dermat. et de Syph., 1898, p. 538.
[7] Ann. de Dermat. et de Syph., 1903, p. 123.
[8] Jour. Cut. Dis. and Syph., 1903, p. 105.
[9] Lieberthal, David: Lichen Planus of the Oral Mucosa, The Journal A. M. A., Feb. 16, 1907, xlviii, 559.
[10] Ann. de Dermat. et de Syph., 1906, p. 972
[11] Ann. de Dermat. et de Syph., 1892, p. 734

Anomalous Pigmentations.—I include in this class all pigmentations of the mucous membrane of the mouth which can not be assigned to any of the preceding disorders. They constitute the largest number. These pigmentations are almost invariably located in the mucous membrane of the lips. Patients are frequently ignorant of their presence. These are usually well-defined areas of black pigmentation. I have not observed them in healthy individuals. I have observed these plaques on the lips of patients suffering from gastrointestinal autointoxication, diabetes and neurasthenia.

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ABSTRACT OF DISCUSSION.

DR. WILLIAM A. PUSEY, Chicago: The subject of diseases of the mucous membrane of the mouth, including the pigmentations, may be called almost a *terra incognita*, and anything that tends to summarize what we know about the subject is extremely useful. I have been watching pigmentary lesions of the mouth and have observed them chiefly with the view of trying to ascertain the reasons for their occurrence. I know that frequent references to the pigmentation of the mucous membrane in pediculosis have been made, but I have never been able to understand the mechanism of its production. Nor have I ever been able to find it, in spite of the fact that I have rather a large clientèle among the classes who suffer from pediculosis. Has any one present ever seen it? Dr. Anthony referred to the pigmentation on the inner surface of the lips occurring occasionally in neurotic individuals. I showed him such a case about two years ago. The patient, an extremely neurasthenic woman, developed spots of pigmentation on the inner surfaces of the lips. The lesions subsequently disappeared and have never recurred. Dr. Anthony referred me to similar cases in French literature.

DR. H. G. ANTHONY, Chicago: I have never seen pigmentation in pediculosis, although constantly on the lookout for it, almost from the time I began to practice medicine. The condition is so thoroughly accepted by French writers, however, and they have taken such pains to exclude other causes that I think it is fairly well established. The pigmentations of the mucous membrane of the mouth in neurasthenia are not so infrequent. They occur mostly on the lips.

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[12] Ann. de Dermat. et de Syph., 1906.
[13] Modern Medicine, i, p. 736.

CRITERIA AND STANDARDS IN INFANT FEEDING.

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The criteria are all those signs and symptoms in the behavior of the infant by which we judge of the sufficiency and suitability of its food. By standards are meant the more or less fixed quality and quantity of the food and its various constituents. While the quality of the food, such as its cleanness, freshness, etc., is of prime importance, yet in this article it will be taken for granted that the quality of the food is all that can be desired, and therefore in the discussion of standards I shall deal only with their quantitative aspect.

THE VARIOUS CRITERIA.

If the baby is uncomfortable and fretful after being fed, and all possible external causes of discomfort have been eliminated, the probability is that there is something wrong with the food. If the discomfort comes immediately after feeding, the quality of the food may be all that is desired, but the quantity is likely to be at fault, either deficient or excessive, whereas, if the discomfort comes some time after feeding, the likelihood is that the quality or character of the food is not suitable for that particular baby.

The normal healthy young infant usually falls asleep after being fed. If it does not do so, there is usually something wrong, and that something may be the food, its quantity, quality or suitability. A normal baby may cry from some cause or causes other than the food, but in a large proportion of the cases the feeding is at fault. The normal healthy baby will have a normal stool, homogeneous, mustard-yellow in color, of a not unpleasant odor, a salve-like consistence and free from admixture with curds or mucus.

The healthy baby will gain in weight in a certain pretty well defined way,[1] that is, the first three months it will gain about half a pound a week or an ounce a day, the next three months the gain being not so rapid, about a quarter of a pound a week, half an ounce a day or an ounce every two days. With this gain in weight should go a gain in length, a gain in strength and activity and a general development. By reference to Table 1 it will be seen that the average gain in length is one inch a month for the first four months, and thereafter half an inch a month until the end of the first year.

TABLE 1.—SHOWING APPROXIMATELY THE WEIGHT AND HEIGHT OF THE BABY DURING THE FIRST YEAR AND THE GAIN IN EACH.

Age.	Weight in lbs.	Gain in oz.	Gain per wk. in oz.	Height in in.	Gain in in.
Birth	7¼			19	
10 days	7¼	0	0		
2 weeks	7½	4	0		
3 weeks	8	8	8		
4 weeks	8½	8	8	20	1.0
2 months	10½	32	8	21	1.0
3 months	12¼	28	7	22	1.0
4 months	13¾	24	6	23	1.0
5 months	14¾	16	4	23.5	0.5
6 months	15¾	16	4	24	0.5
7 months	16½	12	3	24.5	0.5
8 months	17	8	2	25	0.5
9 months	17½	8	2	25.5	0.5
10 months	18	8	2	26	0.5
11 months	19	16	4	26.5	0.5
12 months	20	16	4	27	0.5

During the first three or four days the baby loses weight, from one or two ounces to ten or twelve. In Holt's series of one hundred the average initial loss was ten ounces, or 11 per cent. of the body weight. Dr. Effa V. Davis'[2] series of eighty-seven shows an average initial loss of 5.42 ounces, or 4.7 per cent. of the birth-weight. After the mother's milk is being secreted freely the weight steadily increases, until by the tenth day the nursing infant regains its birth-weight.

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[1] Holt: Diseases of Infancy and Childhood. Griffith: The Care of the Baby.

A glance at Table 1 shows that the period of most rapid growth is during the first three or four months, and that the increase in weight is slowest during the eighth, ninth and tenth months. During the first four months we look for an increase in weight of six or eight ounces a week, or three-quarters of an ounce to an ounce a day. For the next two months, that is, the fifth and sixth months, we expect an increase in weight of about four ounces a week, or a half an ounce a day. During the first six months one should not be satisfied with an average weekly gain of less than four ounces.

A gain in weight may be very deceptive. The increase may be largely fat, as in those cases in which the food is chiefly carbohydrates and fats. In such cases the gain in weight is not accompanied by a suitable gain in strength, nor by the proper development one should expect. It has been shown that young, growing animals fed on a carbohydrate-rich but proteid-poor[3] diet increase in weight as rapidly as those fed on a proteid-rich diet, but that their musculature, their blood and their bones are very incompletely developed, and that they readily succumb to disease.

The criteria, then, by which we decide as to whether the baby is being properly fed are these six: comfort, sleep, good nature or at least the absence of much crying after feeding, the stools, the regular gain in weight, and the gain in strength and development.

THE VARIOUS STANDARDS.

If the baby is satisfactory when judged by these criteria and its condition and progress continue to be satisfactory, one need give himself little concern about how and what the baby is fed. Either the food is suitable or the baby is blessed with a constitution and digestion such as to make little difference whether it is or not. But suppose the baby's condition and progress are not satisfactory; then we must experiment with the food until we have one which, judged by the criteria just mentioned, is suitable for that baby. In order that we may not do this blindly and by mere guess and trial, we ought to have certain standards to which we should strive to approximate; otherwise we may be a long time experimenting before we find a food that will measure up to the criteria, and much harm may have been done by unsuitable foods before we have found a satisfactory one, one that will fulfill the requirements of the aforementioned criteria. These standards I take to be three:

1. The daily proteid or proteid quotient.
2. The daily energy or energy quotient.
3. The nutritive ratio or the energy proteid ratio.

A MAXIMUM AND MINIMUM PROTEID STANDARD.

I have named these standards in what I consider the order of their value. The proteid is of first importance. It is on the proteid that the body must depend for growth and development. The fat and carbohydrates of the food can be made to furnish heat and energy for the baby, but they can not be made to furnish a drop of the digestive or other physiologic secretions, a grain of muscle or a single living cell. The proteid alone can be used for these purposes. It can, if needed, take the place of the fat in furnishing energy or heat, but the fat or carbohydrate can never supply the place of the proteid.

Proteid is needed not only to *repair the waste* of proteid that is continually going on in the tissues, but it is also needed to furnish the material for growth. An adult needs only enough proteid to repair the waste. An infant needs proportionately more than an adult, for it not only has to repair waste, but must grow as well—*that is, make new tissue.*

Now the weight of a baby is a more reasonable and more scientific basis for determining the amount of food than the age, and the method is just as simple; so that, instead of determining how much proteid a baby of a certain age should have each day, it seems better to put our standard for proteid in terms of the quantity per pound per day—that is, the daily proteid for a baby divided by the weight of the baby in pounds, and hence the name of proteid quotient which I have suggested.

How can we fix on any such standard? In attempting to establish a proteid minimum and maximum standard I first reviewed the results recorded in ninety-five cases of breast-fed babies.[4] The babies were weighed before and after every nursing for weeks, in some of the cases for as long as thirty weeks. The total milk per day for each was thus determined, the proteid per cent. estimated and the total daily proteid for each baby calculated. The average daily proteid divided by the average daily weight gives the proteid per pound per day, or what I have called the proteid quotient.

From the recorded observations which I have mentioned the average proteid quotient appears to be about 4 or 4.5, that is 0.04 to 0.045 of an ounce[5] for each pound of the baby's weight. Estimating the proteid per cent. of mothers' milk at 1.75, the proteid quotient for some of the babies for a week at a time would run as low as 3.5 and for others as high as 6 or more. A study of these cases as a whole led me to tentatively fix the proteid standard or proteid quotient at a minimum of 4 and a maximum of 6. This means 2 or 3 ounces of mothers' milk, and considering good cows' milk as containing 3.5 to 4 per cent. proteid, this proteid standard would call for 1 to 1.5 ounces of good cows' milk for each pound of the baby's weight every 24 hours.

This standard I attempted to check up in the following way: A child excretes, mostly in the urine, an amount of nitrogen equivalent to .02 to .03 of an ounce of proteid per pound per day when fed on a proteid-free diet. If gradually increasing amounts of proteid are now fed, it still excretes no more than .03 of an ounce until the amount taken as food considerably exceeds the outgo. The .02 to .03 ounce is the amount necessary to maintain the proteid balance, but does not allow for growth. The difference between the income and the outgo is the amount retained to provide for the growth and development, and the sum of the amount excreted on a proteid-free diet plus the amount retained for growth is the total proteid required per pound, or the proteid quotient.

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[2] Dr. Davis was kind enough to show me the figures before the publication of her paper.

[3] Henry: Feeds and Feeding, Wis. Agr. Exp. Sta. Reports, 1886, 1887, 1888, 1889. Sanborn: Mo. Agr. Coll. Bull., 10, 14 and 19. Shelton: Kan. Agr. Sta. Bull., 9. Duggar: Ala. Agr. Sta. Bull., 82. Fortier: Ext. Trav. Coc. Cent. Ag. Dept. Seine-Inf., 1889-'90. Allen: Proteid in Infant Feeding, Arch. Pediat., December, 1907.

[4] Haehner: Jahrb. f. Kinderh., xv, 23; xxi, 314. Laure: Thèse, Paris, 1889. Ahlfeld: Deutsch. Ztschr. f. Prakt. Med. 1878. Freer: Jahrb. f. Kinderh., xlii, 195. Davis: The Journal A. M. A., 1903.

[5] It seems better to express the *proteid quotient* in whole numbers, understanding that they represent hundredths of an ounce, than to express it in decimals. We *need* some short, simple name for hundredth or per cent. of an ounce, for it is a very convenient unit for measuring the proteid, *the* sugar, the fat and the energy.

[6] Van Slyke: Modern Methods of Testing Milk, 1907. Babcock: Food Insp. and Analyses by Leach, 1907. Farmers' Bull., 29, U. S. Dept. of Agr., 1895. Bunge, Richmond and Billitz: Cited in Hyg. Lab. Bull., 41.

I can claim only an approximate accuracy for the results in the cases I have studied, owing to the obvious difficulties in collecting the urine of infants and in feeding a proteid-free diet for a number of days, but my results seemed to indicate that about 0.02 of an ounce of proteid is needed for repair, and that from 0.015 to .03 of an ounce is needed for growth and development, and that therefore 0.035 of an ounce represents the minimum amount necessary for growth and 0.05 of an ounce represents the maximum.

Table 2 is not intended to represent the actual results but only to illustrate in a general way the data from which the above conclusions are drawn. The figures for the proteid given, excreted and retained, are in hundredths of an ounce and are for each pound of the baby's weight.

TABLE 2.

	Proteid given.	Proteid equivalent of nitrogen excreted.	Proteid retained.
1	.00	.02	.00
2	.01	.02	.00
3	.02	.02	.00
4	.03	.02	.01
5	.045	.02	.025
6	.06	.035	.025
7	.07	.045	.025

The first and second lines show that not enough proteid is given to maintain proteid equilibrium. The third line shows proteid balance. The fourth and fifth lines show that 0.025 ounce can be retained for growth and reserve. The sixth and seventh lines indicate that no more than 0.045 can be utilized, 0.02 to repair the waste and 0.025 for growth and reserve.

That this proteid quotient is two or three times as large as that considered necessary for an adult is not to be wondered at, for the proteid metabolism of the infant must be about three times as great as that of the adult, as is evidenced by the fact that the baby's weight is doubled in five months and trebled in a year, whereas in the adult there is practically no growth, no new secretion, no development or growth of glands, brain or other organs.

We may therefore, I think, safely put the minimum proteid quotient at 3.5 to 4 and the maximum at 5 to 6, or 1 to 1.5 ounces of good cows' milk to the pound.

If the milk contains less than 3.5 to 4 per cent. proteid, then the amount of milk will be proportionately more, thus 1.33 to 2 ounces of a 3 per cent. proteid milk or 2 to 3 ounces of a 2 per cent. proteid milk would be needed to satisfy the requirement of this minimum and maximum standard.

THE ENERGY STANDARD OR ENERGY QUOTIENT.

As a result of careful observation on a few normal children Heubner concluded that the normal healthy baby required in twenty-four hours an amount of food sufficient to furnish 100 calories of energy for each kilogram of its weight. Translated into our more familiar English terms, this means that the baby should have in every twenty-four hours for every pound of its weight sufficient food to provide 45 calories of energy. As this is the equivalent of the energy which can be obtained from 0.39 ounce of sugar, we have a good idea of what this standard means by picturing to ourselves a level tablespoon of milk sugar or 3 level teaspoons of cane sugar as the energy requirement of each pound of the baby.

My own experience is that this is a fair standard, but that all babies are not alike in regard to their requirement of energy, even though they are of the same age and weight, and though the general conditions and environment are similar. An active baby that is kept nervous and excited through too much handling will require more than a baby that is kept quiet. A fat baby will require less than a thin one, owing to the lesser heat radiation. During the period of rapid gain in weight, viz., the first five or six months, the energy need, or perhaps I should say the need for energy food, is greater than thereafter, so that for some time I have advocated a standard with a considerable range,[7] 35 to 45. Czerny and Kellar,[8] also, draw attention to the fact that 45 is sometimes too small, but oftener too large.

Budin[9] and many of the French pediatrists give 100 grams of pure milk per kilogram of the weight of the baby during the first few months—that is, one-tenth of the body weight. One-tenth of a pound is 1.6 ounces. Each ounce of good milk will yield 20 calories and 1.6 ounces will yield 1.6×20, or 32 calories. Therefore Budin's energy quotient is about 32, or a little less than the minimum I have suggested for continuous feeding.

For normal healthy babies, then, it appears that the energy quotient should be between 32 and 45. Occasionally we may find that we should give less than 32 or more than 45, but then only for a short while. For most babies for most of the time the energy quotient at 40 or 42 will be found to give most satisfactory results.

As a check on this energy I turned to the recorded observations on the breast-fed babies to see if I could find there anything that would either confirm or modify this energy quotient which I had adapted from Huebner and Budin, putting it at approximately 40 and allowing a range of 35 to 45. From these observations it appears that the average baby consumes, per pound, about 2 to 2.5 ounces of its mother's milk, each ounce having an average fuel or energy value of 20 calories. This would make the energy quotient 40 to 50, which is seen to be fairly consonant with the Huebner standard of 45.

When we remember that the energy quotient for an adult man at moderate work[10] is not over 22—that is, 3,300 calories per day for a man weighing 150 pounds—it may appear that an energy quotient of 35 to 45 for a baby is disproportionately high, being 1.5 to 2 times as great. The explanation of this must be sought in: 1. The relatively greater growth and greater storage of reserve material; 2, the greater metabolic activity; 3, the proportionately greater surface and in consequence the greater radiation of heat.

THE NUTRITIVE RATIO OR THE PROTEID RATIO.

In infant feeding, so far as I am aware, practically no attention has been paid to the nutritive ratio—that is, the relation between the proteid or tissue-building constituent on the one hand, and the fats and carbohydrates, or the energy-producing constituents of the food, on the other. It seems to me that the nutritive ratio, or, as I prefer to call it, the proteid ratio, is almost as important as the energy, for the energy quotient enables us to control the food only so far as the energy is concerned. It gives us no help in controlling the amount of proteid, either absolute or relative. The proteid quotient enables us to control the absolute amount. The nutritive ratio is intended to control the relative amount. As I have already indicated, the proteid control is the most important. With it and either the nutritive ratio or the energy quotient we can maintain absolute control of the feeding and may know at any time exactly what we are doing.

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[7] Allen: Chicago Med. Recorder, April, 1907.

[8] Des Kindes Ernahrung, Ernahrungstor. und Ernahrung Ther., Cap. 19.

[9] Man. Prat. d'Allaitment.

[10] Hirschfeld (Felix): Pfluger's Arch. f. d. ges. Physiol., xli, 533. Voit (Carl): Ztschr. f. Biol., xxv, 232. Klemperer: Ztschr. f. Klin. Med., xvi, 550. Breisacher: Deutsch. med. Wchnschr., No. 48. Chittenden: Nutrition of Man.

Some time ago I devised a scheme[11] for calculating the amount of sugar or fat to be added, using the proteid quotient and the ratio as the basis, the energy quotient being used merely as a check. Just as in the case of the proteid quotient and the energy quotient there should be a minimum and maximum and no attempt should be made to fix a uniform, undeviating standard for the ratio.

To guide us in establishing these, let us consider the nutritive ratio of mother's milk and the ratio in a well-balanced diet for adults. In mother's milk the ratio ranges from 8 to 12 or 13, averaging about 9. In what has been considered for many years a properly balanced diet for adults the ratio is one to five. It seems reasonable, therefore, to begin with a ratio about 9 or 10, and gradually reduce it to 8, 7, 6 and 5, the last mentioned being reached about the eighth or tenth month. My own idea of how the ratio should change is indicated in the following table:

TABLE 3.—The Nutritive Ratio Suggested for the First Year.

Age.	Ratio.	
First month	12 to 8	Average 9
Second and third months	9 to 7	" 8
Second quarter	8 to 6	" 7
Third quarter	7 to 5	" 6
Fourth quarter	7 to 5	" 5

The maximum ratio, it will be seen, is 12, and the minimum 5. The nutritive ratio at any age should lie between these, and since the ratio in the baby's natural food averages about 9, the presumption is that the baby should do better with the ratio nearly 9 than on a very low ratio. There are some reasons, however, for allowing a low ratio like 5. In general babies do well on whole cow's milk after the eighth or tenth month. In cow's milk containing 4 per cent. fat, 3.5 per cent. proteid and 4.5 per cent. sugar, the proteid ratio is rather more than 1 to 4. Personally, I think it is not wise to keep the proteid so large a proportion of the food. Some of the sugars, starches or fats should be added, to at least keep the proteid down to one-sixth of the total food—that is, a proteid ratio of 1 to 5.

It may be thought unnecessary to keep in mind any limits to the ratio, as it would seem that the proteid ratio in most infant foods would naturally fall between these limits. A very cursory examination of the modified milks and proprietary foods in common use will show that the ratio often runs as high as 20 and as low as 2; that is, in the former case the baby is getting almost exclusively energy-producing food, and in the latter case the food is too largely tissue-building, and the energy needed must be obtained from food primarily intended for a different purpose. In whole milk, as I have said, the proteid ratio is about 1 to 4. In skim milk it is 1 to 3 or less. Babies are sometimes fed on these for some length of time, but viewed from the standpoint of the natural babies' food or the food of adults, it seems to be unreasonable to use these for any length of time.

THE PRACTICAL APPLICATION OF THESE STANDARDS.

1. *The Proteid Quotient.*—All good undiluted milks containing 4 or more per cent. of fat may be assumed to contain 4 or more per cent. of proteid, and therefore the minimum proteid quotient, 4, calls for 1 ounce of milk for each pound of the baby's weight, and the maximum, 6, requires that 1.5 ounces be fed for each pound. Intermediate quotients, such as 4.5 and 5, require 1⅛ and 1¼ ounces, respectively. The total undiluted milk for the day is, therefore, this factor: 1, 1⅛, 1¼, 1⅜ and 1½, multiplied by the weight in pounds, and this is true whether the milk be whole milk, top milk, skim milk, buttermilk or any undiluted good milk.

Example: A baby weighs 16 pounds. The proteid quotient desired is 5, or 1¼ ounces to the pound. We know at once that we require:

WHOLE MILK 1¼ × 16 = 20 oz.

2. *The Energy Quotient.* We may employ the energy quotient merely as a check or as a basis of feeding. (a) As a check on the feeding. The total energy of the food for the day is calculated and divided by the baby's weight. In this way we ascertain the energy quotient which this food would supply. If this proves to be higher or lower than the quotient desired, we modify the food accordingly. (b) But the better way to use the energy quotient is to employ it as a basis, as one of the specifications which the food must fit. To illustrate: A baby five months old weighs 15 pounds. It is desired that its food shall furnish an energy quotient of 40. We know that this is the equivalent of two ounces of whole milk to the pound, but since our maximum milk to the pound is 1.5 ounces, let us fix the amount of milk to be fed this baby, say at 1.5 ounces. Since this quantity of milk will furnish 30 calories, we shall have only 10 calories to be made up by the sugar, cereal, cream or starch. If we add sugar or cereal we would require 10×15 divided by 120, or about 1.25 ounces. We make our calculations concisely thus:

MILK ENERGY 1.5 × 20 = 30 CAL.
ENERGY TO BE ADDED 40 — 30 = 10 CAL.
SUGAR TO BE ADDED 10 × 15 ÷ 120 = 1.25 OZ.

Or, in one expression:

15 (40 — 1.5 × 20) ÷ 120 + 1.25 (oz.)

Or as follows:

TOTAL ENERGY REQUIRED 40 × 15 = 600 CAL.
MILK ENERGY 1.5 × 20 × 15 = 450 CAL.
BALANCE TO BE OBTAINED FROM SUGAR = 150 CAL.
THEREFORE SUGAR TO BE ADDED 150 ÷ 120 = 1.25 OZ.

If we let E represent the energy quotient, e the energy obtained from the milk, and W the weight of the baby, then a general formula for calculating the sugar to be added would be:

$$\text{SUGAR} = W/120\ (E—e) \quad \text{or} \quad \text{SUGAR} = \frac{W}{120\ (E—e)}$$

3. *The Nutritive Ratio or Energy-Proteid Ratio.* Just as with the energy quotient, the energy-proteid ratio may be used as a check or as a basis of feeding. To use it as a check, we find the sugar equivalent of

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[11] Chicago Med. Recorder, April, 1907.

the fat and carbohydrate in the food and compare with the proteid. For example, a baby is being fed a milk having the composition, fat 3, proteid 2, sugar 5.25. The fat and sugar are together equal to $3\times2.25+5.25$, or 12 of sugar. The energy-proteid ratio is therefore 12 to 2 or 6 to 1.

When one employs the energy quotient alone as a basis of feeding, then the energy-proteid ratio is an important check, but when one uses both the proteid and energy standards, this check is of less importance, for it is only when one is feeding the minimum proteid with the maximum energy or the maximum proteid with the minimum energy that he is in danger of giving a disproportionate amount of proteid.

By the following plan, which I devised, the proteid quotient and the energy ratio are taken as the basis on which the food to be given is calculated. At the same time a check can be kept on the energy by a very simple calculation. Instead of the nutritive ratio we take rather the ratio between the total energy furnished by the food and the energy furnished by the proteid it contains.

To illustrate by an example, in an ounce of cow's milk, assumed to contain 4 per cent. fat, 4 per cent. proteid and 4 per cent. sugar, the total energy is equivalent to that furnished by 0.17 ounce of sugar ($4\times2.25+4+4$), and the energy furnished by the proteid is equivalent to that furnished by 0.04 ounce of sugar. Then the ratio of the total energy to the proteid energy is 17 to 4 or 4¼. It is a simple matter to determine this energy-proteid ratio for any food of which the composition is known.

The product of the proteid quotient by the energy-proteid ratio gives the sugar value of the food in hundredths of an ounce. Instead of thinking in calories, it is more convenient to think of the energy in hundredths of an ounce of sugar. Our standard of 35 to 45 calories per pound of the baby's weight would in sugar units be 6/7 of these numbers, that is, 30 to 40. The energy quotient will then be obtained by simply multiplying the proteid quotient by the ratio, that is

$$E = P \times R \text{ or } PR.$$

An example will best illustrate the plan: A baby is one month old and weighs eight pounds. We desire to feed it a proteid quotient of 4, or one ounce of milk to the pound, and that the ratio shall be between 8 and 9, say 8¾.

It is to be understood that any ratio is to be tentative until we test whether such a ratio would give a reasonable energy quotient. Suppose, for example, we fix the ratio at 9. We know at once that the energy quotient would be 36. Now, remembering that our energy standard ranges in sugar units from 30 to 40, it may appear that it would be safer to start with an energy quotient of 35. Accordingly we reduce the ratio by ¼, making it 8¾. The data from which the calculations are to be made now stand thus:

Baby one month old, weight 8 pounds, proteid 4, or one ounce of milk to the pound, ratio 8¾. The energy quotient has already been determined:

$$E = PR = 4 \times 8\tfrac{3}{4} = 35.$$

The milk requires no calculation, being 1 ounce to the pound. To calculate the sugar, we reason as follows:

The sugar value of the food to be supplied is required to be 8¾ times the proteid. The sugar value of the whole milk is 4¼ times the proteid. Therefore we must add sufficient sugar value to make the difference between 8¾ and 4¼. The sugar to be added in this case is 4 (8¾—4¼) for each pound, and therefore the total sugar to be added is $8\times4\times(8\tfrac{3}{4}-4\tfrac{1}{4})$, that is, $8\times4\times4\tfrac{1}{2}$, or 1.44 ounces, or a little less than 1.5 ounces.

The whole work may now be represented as follows:

BABY 1 MONTH: W, 8; P, 4 or M, 1; R, 8¾.
$E = 4 \times 8\tfrac{3}{4} = 35.$
WHOLE MILK $1 \times 8 = 8$ OZ.
SUGAR $8 \times 4 \times (8\tfrac{3}{4} - 4\tfrac{1}{4}) = 1.5$ OZ.

The following examples will illustrate how rapidly and easily these calculations can be made:

1. BABY 1 MONTH; W, 8 LB; P, 4 or M, 1; R, 8.
$E = PR = 32.$
WHOLE MILK $1 \times 8 = 8$ OZ.
SUGAR $WP\ (R - 4\tfrac{1}{4})$ OR $8 \times 4 \times 3\tfrac{3}{4} = 1.2$ OZ.

2. BABY 2 MO.; W, 10 LB.; P, 4.5 OR M, 1⅛; R, 8.
$E = 4.5 \times 8 = 36.$
WHOLE MILK $1\tfrac{1}{8} \times 10 = 11\tfrac{1}{4}$ OZ.
SUGAR $10 \times 4.5 \times 3\tfrac{3}{4} = 1\tfrac{3}{4}$ OZ.

3. BABY 3 MO.; W, 12½; P, 5; R, 7¾.
$E = 5 \times 7\tfrac{3}{4} = 39.$
WHOLE MILK $1\tfrac{1}{4} \times 12\tfrac{1}{2} = 15\tfrac{5}{8}$ OZ.
SUGAR $12\tfrac{1}{2} \times 5 \times 3\tfrac{1}{2} = 2.20$ OZ.

4. BABY 4 MO.; W, 13 LB.; P, 5; R, 7¼.
$E = 5 \times 7\tfrac{1}{4} = 36.25.$
WHOLE MILK $1\tfrac{1}{4} \times 13 = 16.25$ OZ.
SUGAR $13 \times 5 \times 3 = 1.95$ OZ., *i.e.*, 2 OZ.

The quantity of water or other diluent to be added to the milk is readily determined from the milk quotient. The weight times the milk quotient is the daily volume; from this, subtract the milk in ounces. In the first example above, assuming a milk quotient of 2.5, the total volume of food would be $8\times2.5=20$, and the diluent to be added would be $20-8=12$ ounces—in general the weight times the milk quotient less the milk. The milk quotient, it is seen, runs from 2 to 3 and will average about 2.5.

ADVANTAGES OF THE SYSTEM.

The advantages of this plan over all others, it seems to me, are:

1. It is more comprehensive. There is absolute control of not only energy and proteid, but also of the ratio between these two. Other plans control the energy alone or the proteid and energy, as when my proteid quotient is used, but no other plan suggested controls the proteid, energy and ratio, enabling one to know at any time just what and how much he is giving.

2. It is easily changed to meet changing conditions of weight, age, etc., etc.

3. It is simple, and the calculations are extremely easy. Taking the three numbers representing the weight, the proteid quotient and the ratio, it is seen that one-fourth of the product of the first and second gives the amount of milk for the day; the product of the second and third gives the energy in sugar units, and the product of the first, second and third—lessened by the ratio of the food used—gives the sugar in hundredths of an ounce which must be added.

The numbers are all small and easily handled. The operations are reduced to one, that of multiplication, and the fractions, whether vulgar or decimals, are simple and in most cases can be handled without even the use of a pencil.

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THE CARDIOVASCULAR SYSTEM IN PROGNOSIS.

WITH SPECIAL REFERENCE TO LIFE INSURANCE EXAMINATIONS.

HENRY WIREMAN COOK, M.D.
MINNEAPOLIS.

> Longevity is a vascular question, which has been well expressed in the axiom that "a man is only as old as his arteries." To a majority of men death comes primarily or secondarily through this portal.—OSLER.

Not only is cardiovascular disease the determining factor in a majority of deaths, but it is becoming a more and more important factor. Improved social conditions, the advances in modern medical science, particularly preventive medicine, are steadily lowering the general mortality from the infectious diseases, leaving a larger number to endure the effects of later wear and tear which are accentuated by the extraordinary stress under which the average American is living. This trend is a matter of common clinical knowledge, and statistical evidence on the point is most convincing.

A glance at the summarized table of the last census report[1] shows in recent years a practically steady increase in the cardiovascular diseases, and a notable decrease in the infectious diseases. This abstract shows increase and decrease for three main headings during the past six years. The + sign indicates increase, the — sign decrease. It is calculated for deaths per 100,000 of population.

General diseases (including epidemic, tubercular, *typhoid, etc*)	—52.6
Diseases of circulatory system	+25.1
Diseases of genitourinary system	+11.

The mortality statistics of the State of Massachusetts are the most reliable available, and are even more striking. The death rate per 10,000 population from typhoid and tuberculosis taken together, in decades from 1865 to 1905, is shown in the first column. In the second column is the percentage of deaths from heart disease, and in the third column from genitourinary disease.

	Typhoid and Tuberculosis.	Heart Disease.	Genitourinary Disease.
1875	41.1	8.06	3.08
1880	35.7	9.68	3.91
1885	34.6	11.97	5.60
1890	29.6	15.58	5.69
1895	24.6	15.01	7.43
1900	20.7	13.99	8.05
1905	17.5	18.45	8.53

Notice that the first decreases steadily from 41.1 to 17.5; the second increases from 8.06 to 18.45; and the third increases from 3.08 to 8.53.

When this tendency toward a diminution in infectious diseases and an increase in cardiovascular disease is so definite in general population statistics, we can be sure that it will be even more pronounced among lives selected for ordinary insurance.

The beneficial effects of modern sanitation and prophylaxis are particularly felt in this select class, which consists of our best social elements. Tuberculosis, typhoid, primary pneumonia, venereal disease, puerperal septicemia, violence, etc., largely spare these higher, more intelligent classes, to reap their richest harvest among the poor, the ignorant, and the vicious. Unfortunately, as regards cardiovascular diseases, the converse is true, namely, that these diseases have their strongest hold among the classes which feel the extraordinary strain of modern life most strongly.

Too often members of these classes avoid the dangers from infectious diseases only to encounter undue cares and responsibilities which overstrain the heart and blood vessels of brain and kidney.

It is well-known that the increase in vitality among insured lives is during the younger years, at which period infectious diseases are chiefly operative.[2]

It is not necessary to dwell longer on the increasing incidence of cardiovascular disease, for statistical evidence and clinical experience leave this indisputable. But it does seem highly important to emphasize the necessity for greater efforts in determining the presence of cardiovascular impairment in life insurance examinations. A large majority of rejections for cardiovascular disease are for endocarditis with acute articular rheumatism as the causative factor, and few are the notations of such impairments as arterial thickening and sclerosis, increased tension, cardiac hypertrophy without valvular disease, accentuated second sound, etc., often the only evidences of insidious trouble which may eventuate in apoplexy, acute cardiac dilatation, or nephritis.

Examiners apparently are too often satisfied regarding the cardiovascular system when there is no heart murmur and no irregularity or increase in rate of the pulse. A large proportion of the candidates for fatal cardiovascular disease within the next ten years do not at present show these gross symptoms, nor any albumin in the urine, yet a thorough, more detailed examination would reveal an unfavorable cardiovascular condition in the majority.

It may be proper here to define more exactly the broader sense in which the term cardiovascular disease is used in this article. Cardiovascular impairment is essentially protean in its manifestations, and the term "heart diseases," as returned in death certificates would include but a small proportion of diseases primarily cardiovascular in character. Especially in examining applicants for life insurance must we bear in mind the relation of cardiovascular impairment in the following diseases, and search for its evidence. Apoplexy is as much a cardiovascular disease as mitral insufficiency, and although the cerebral arteries are not available for examination, other portions of the vascular system are. A large number of chronic interstitial nephritis cases—probably a majority—are vascular in origin. Aneurism, arteriosclerosis, softening of the brain, chronic passive pulmonary and systemic congestion, dropsies, abnormally high tension, and lastly—probably the largest heading—the terminal infectious diseases in which an impaired, overworked cardiovascular system has created a condition of lowered resistance eagerly embraced by pneumonia, erysipelas, etc. How many of the deaths returned as pneumonia are primarily due to cardiovascular disease it would be impossible to estimate, but most clinicians would give a high figure.

The effects of an impaired cardiovascular system are operative in surgical cases also. Etherization, Trendelenburg's position, prolonged manipulation, are but poorly tolerated in the presence of impaired heart muscle, sclerotic vessels, or undue arterial tension. No general practitioner need have the difference in prognosis pointed out for the infectious diseases, such as typhoid, with or without cardiovascular impairment.

Longevity is indeed a vascular question. As therefore a sound unimpaired vascular system is a prime requisite for a normal life expectancy, we may profitably review the points bearing on the abnormalities which may be developed by an insurance examination. That these abnormalities can be revealed by a proper, careful examination in a considerable number of cases, I think there can be no question, and the elimination of the worst of these applicants would produce a large saving in mortality under the primarily cardiovascular headings outlined above.

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[1] Mortality Statistics, 1903, p. 28.

[2] Buchanan: Tr. Faculty Actuaries, iv, part 3, No. 37.

The careless general endorsement of applicants who have no coarse râles at the apices, no cardiac murmurs, and no albumin, is an undue expense to all life insurance companies. The statistics of one of our largest insurance companies show how indifferent the cardiovascular examination often is. For example: 7.26 per cent. of the total first-year mortality was from heart disease; 10.97 per cent. was from apoplexy, softening of brain, etc.; 3.55 per cent. from Bright's disease; or a total of 21.78 per cent. of first-year mortality was due to heart disease, apoplexy and nephritis; so that taking into consideration the chronicity of these diseases, it is not excessive to say that nearly one-fifth of the first-year mortality could be saved by a thorough examination. The mortality for typhoid, which could not be foreseen, is only 8.71 per cent. for the first year. The proportion of cardiovascular diseases is even a little higher for the second and third years. In the older entrants the mortality for vascular diseases is as great in the first year as in later years. It must be a very exceptional case for a man to be perfectly sound at the time of examination and die within the year of apoplexy, heart disease, or nephritis; yet experience shows that doomed men are passed constantly by medical examiners.

Competent examinations should practically exclude heart and arterial diseases, apoplexy, and nephritis from the first year's mortality, and should largely eliminate them from at least the first three years.

In the large cities, where competition for the position of examiner is more keen among well-trained reliable men, it is possible to have examinations which are more than such a superficial inspection, and good painstaking work is often obtained in smaller towns, but not so frequently. But in town and city a more rigorous search for cardiovascular impairment with a full account of all features in the case, would greatly enhance the value of the medical examination.

In the medical examination, cardiovascular impairment should be searched for along three main lines.

I. PERSONAL HISTORY.

First, the personal history of the applicant often lends a clue; a previous life of hard physical labor, undue mental worry, excessive use of tobacco, dissipation, gout, work in lead, that is, as painter, glass-worker, etc., all predispose to cardiovascular impairment, and should induce a more rigorous examination. The undue strain to which common laborers are subjected, taken in conjunction with their frequent unsanitary surroundings, have made them a prohibited class for ordinary insurance with most old-line companies. A heavy mortality is experienced among the successful business men past middle life, the financiers, the men who apply for the large policies. Too often financial success has been purchased at the cost of physical impairment, which most often takes the form of cardiovascular deterioration. This extra hazard is well recognized, and usually an alternate examination is required, frequently by a specialist in internal medicine, in an effort to detect these early changes. A report from such an internist of an accentuated second sound, an increased tension, a thickened radial, would bring a prompt rejection. Typhoid fever (Thayer), acute articular rheumatism, syphilis, and possibly other infectious diseases are important. A past history of chronic dyspepsia or indigestion should receive careful attention. There are definite cases of cardiovascular disease in which no etiologic factor is apparent other than the opportunity for intoxication from an unhealthy digestive tract. Furthermore, the beginning of serious trouble in heart or kidney may first be manifested by gastric disorder. Indigestion and dyspepsia are not as trifling as many apparently believe. In young entrants this weakness opens the door to infection, and in later life may be the signal of deeper trouble.

II. FAMILY HISTORY.

The tendency to early cardiovascular degeneration may undoubtedly to a certain extent be inherited. When several members of the immediate family have died before 65 of Bright's disease, apoplexy, or heart disease, we must think of the probable existence of such a tendency, and the applicant, especially if over 40, must be held under grave suspicion until the existence of cardiovascular disease has been eliminated.

III. PHYSICAL CONDITION.

While the personal and the family history give valuable suggestions to the examiner, the most important element in the examination is the present physical condition, which may reveal conditions totally at variance with a favorable history, or may lend valuable accessory evidence to a suggestive history, or, finally, may establish proper evidence of insurability in spite of a poor family or personal history. A comprehensive judgment as to the existence of cardiovascular disease is possible only if the medical examiner keeps this disease constantly in mind as a possibility in applicants over 35, first, with the prospective furnished by family and personal history, and then by a rigorous attention to the details of the physical examination, the general outlines of which, bearing on cardiovascular disease, I will briefly review.

Sex.—Males are much more subject to the various vascular diseases than females, as one would expect *a priori.* The more strenuous the life, the higher the tension, mental or physical, the rougher the usage, the sooner will wear become apparent. Any dangers that may be associated with the climacteric in the female are more than offset by the much graver dangers that may portend in the male between 40 and 50. Referring to the classical article by Brandreth Symonds,[3] it is seen that although the mortality at nearly every age is more favorable among females than males, yet the difference is most striking between 46 and 56, when the male mortality is nearly double that of the female. This is the decade when premature vascular changes become active.

Age.—At younger ages than 35 it is rare to find these degenerative changes, except the forms of infective endocarditis and the lesions of syphilis. The most frequent age of discoverable onset is between 40 and 65.

General Appearance.—This, though often deceptive, may lend a clue to the experienced. There is a facies which often seems to warn in these cases, less marked than in definite Bright's or aortic disease, and yet suggestive of some impairment—a strained look, perhaps best termed haggard, premature lining of the face, shadows under the eyes, a mixture of pallor and sallowness. A progressive loss of weight is particularly serious. Often, however, there is no indication in general appearance—the color may be good, the eye alert, expression vigorous. A subnormal temperature, that is, below 97.8, should be noted, as it is frequently associated with these degenerative changes.

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[3] Am. Jour. Med. Sc., March, 1894.

Weight.—This is usually at normal or somewhat above, unless there has been a loss, which would in itself be a serious symptom. It may be that thin, more delicate men are unable to keep up the pace that kills, so that if they escape the infectious diseases in early adult life they are apt to outlive their more vigorous contemporaries. The racing proverb, "A lean horse for a long race," is often not inappropriately applied to delicate men who take proper care of themselves. Cases of extreme overweight are generally excluded from ordinary insurance, so they need not be considered.

Pulse and Arteries.—The pulse should be counted for a full minute, and care taken to note any tendency to intermission. An intermission, even though only occasional, in an applicant over 40, is important, and should be noted. It may be the only indication of myocardial disease. A rapid pulse, that is, over 90, may indicate muscular weakness. A very slow pulse, below 60, may indicate an abnormally high tension. A knowledge of incipient changes in the arterial wall is most important; as Dr. Osler has said of these cases: "The subsequent history is extraordinarily diverse, depending on the vascular territory in which the sclerosis is most advanced, or on the accidents which are so liable to happen; and the symptoms may be cardiac, cerebral, renal." The radial and temporal arteries should be carefully palpated to discover thickening or sclerosis. Ordinarily the radial is accessible, but in stout individuals the temporal affords a more favorable opportunity for palpation. Two or three fingers should be used, and an effort made to roll the artery under them. When the artery can be thus felt as a definite cord after the blood has been blocked, there is some change in the wall. Inspection of the pulse is often valuable. A visible pulse beat in the radial, unless the subject is very thin, should lead to careful investigation. Visible pulsation in the brachials or carotids is even more suspicious. It may indicate a thickened artery or a high-tension pulse, often both. A tortuous artery is always abnormal. At the same time an effort should be made to estimate the tension, though usually one's confidence in his ability to gauge tension is in indirect proportion to the frequency with which he has controlled his tactile measurements by the sphygmomanometer. Palpation judgments of tension are certainly most deceptive, and as this is the most important single sign indicated by the pulse, I do not hesitate to say that no cardiovascular examination in an applicant over 40 can be considered complete without a knowledge of the blood pressure as obtained by the sphygmomanometer. An observation can be obtained quickly and accurately, and should be a routine in applicants over 40. No physician can treat heart or kidney cases intelligently without the aid of a sphygmomanometer, and an examiner should be in a position to furnish blood-pressure readings as readily as the pulse-rate. It is far more important. A tension above 140 mm. Hg with a four-inch arm-piece is suspicious; over 150, most serious. Examiners are beginning to appreciate that a "strong pulse" is not always a recommendation. Such a "fine, strong pulse" may shortly successfully rebel at normal arterial restrictions.[4]

Heart.—Every cardiac examination should begin with a careful inspection, and the apex beat should be located, if visible. A presumptive diagnosis of cardiac hypertrophy can frequently be made by inspection alone. A diffuse, heaving impulse should be noted as differing from the usual localized beat. A thoracic aneurism can be easily missed if inspection without the shirt be neglected. Palpation establishes or confirms the location of the apex-beat, and the possibility of hypertrophy must always be entertained unless this is well within the nipple line. At the same time the presence of a thrill can be detected. An examiner who does not define by percussion, at least the left border of the heart, is certainly derelict. No more important evidence can be obtained from the examination than the correct knowledge of the extent of cardiac dulness. Cardiac dilatation and hypertrophy are by no means infrequent in older applicants, and are most serious conditions, constantly overlooked in hurried examinations. In the absence of a murmur, the most valuable evidence afforded by auscultation is an accentuated second sound over the base of the heart, particularly over the aortic area. This indicates increased tension in systemic arteries, and can be confirmed by the sphygmomanometer. The position of the apex can be confirmed by noting the point where sounds are heard loudest. It should be noted that sounds are not weakened or blurred, and especially that there is no roughening of the first aortic sound. The recognition of the ordinary murmurs of endocarditis are too elementary to need repetition.

Urine.—The relation between the circulatory system and renal secretion is an interesting one, and a careful urinary examination may give the clue to vascular disease. For example, with an increased quantity of urine of low specific gravity in a male over 50, there may be expected high tension, cardiac hypertrophy, thickened arteries, etc. A man over 50 who rises to urinate at night probably has prostatic hypertrophy, beginning interstitial nephritis, or cardiac hypertrophy, perhaps all three. The association of albuminuria and cardiovascular disease is a matter of common knowledge, and need only be mentioned in relation to substandard insurance, as in ordinary insurance the presence of albumin alone would dispose of the case; but in issuing a substandard policy to a man passing albumin, a knowledge of the condition of the heart, arteries, and blood pressure is of prime importance. Albuminuria without cardiovascular disease and with normal blood pressure is compatible with health for many years. With an equal amount of albumin associated with cardiac hypertrophy and a blood pressure of 200 mm. the case may eventuate at any time in apoplexy or acute dilatation.

SUMMARY.

The combined cardiovascular diseases constitute the largest element in general mortality, and are even more important elements in insured mortality.

The evidences of incipient cardiovascular disease are discoverable in many cases by careful attention to the details of the examination.

Greater care and thoroughness in this particular would produce a large saving in insurance mortality, especially during the first five years.

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[4] I have always used and found most satisfactory the instrument known by my name and first described in THE JOURNAL A. M. A., 1903, xl, 1199.

Clinical Notes

UTERINE TENACULUM.

L. C. FISCHER, M.D.
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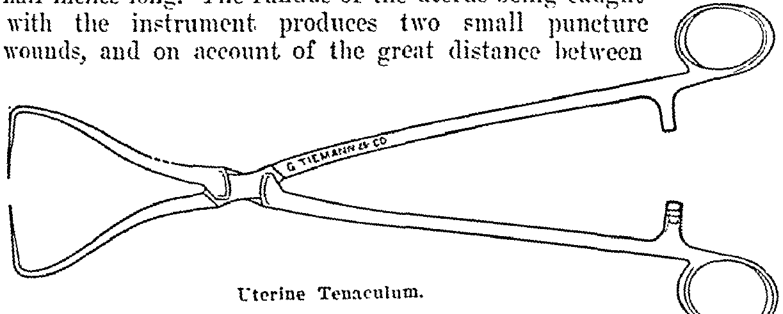
About two years ago I devised a tenaculum for work on the uterine appendages when the uterus was to be left in the abdomen, which has given me much satisfaction. The instrument is ten inches long, each point being three-fourths of an inch long, making the total distance of the opening between the points one and one-half inches long. The fundus of the uterus being caught with the instrument produces two small puncture wounds, and on account of the great distance between the two arms of the triangle no trauma whatever is caused by pressure. The instrument is sufficiently long so that the assistant can support the uterus in a fixed position and yet have his hand out of the way.



Uterine Tenaculum.

The instrument is especially valuable in shortening the round ligaments and to suspend the uterus; in fact, in all operations where the uterus was not to be removed. The punctured wounds do not bleed and the trauma caused is insignificant.

SOME ATYPICAL SYMPTOMS IN GASTRIC CARCINOMA,

WITH REPORT OF A CASE.

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DENVER.

The time-honored group of symptoms for gastric carcinoma, which have long since become classic, are more often absent now that exploratory operations are common. When we do have the classical symptoms of cancer the case is usually beyond surgical relief. It is, therefore, the atypical case which should engage our attention, because in this group of stomach troubles we shall find those which may be relieved by early operation.

Frequently we find on opening the abdomen that surgery has been employed too late to benefit the patient. And in so many of these hopeless malignant cases there is found distinct evidence of an old ulcer on the base of which malignancy has been grafted, the constant irritation of hyperacidity with its attending pain and distress having converted a benign growth into one of malignancy.

As a rule the ulcer-bearing area is at the pylorus. When malignancy occurs here it is natural to expect, and clinically we find in a very short time after malignancy has commenced, that the glands secreting hydrochloric acid are involved and their function inhibited. The same is also true with regard to the mechanical function, this last disturbance being manifested by certain obstructive phenomena, as nausea and vomiting.

If, however, the malignant ulcer is well toward the cardiac end, certain symptoms, as achlorhydria and obstruction, may not be present. In fact it is quite likely that hyperacidity will prevail, attended with its characteristic pain after meals. That in all these cases the patients should be given the benefit of an early exploration is beyond question, especially after a brief but unsuccessful medical course has failed.

The sooner the medical man realizes this the earlier shall we be able to reduce the mortality in cancer of the stomach. He should be present in the operating room with every one of his patients on whom operation is done, and not only see but actually feel these old scars; then will he realize the chagrin with which the surgeon is obliged to close the abdomen, with the full knowledge that there has been a time when malignancy could have been averted.

When once the medical man has fully realized this fact of the lost opportunity for his patient, there will be fewer stomach resections, for a gastroenterostomy or a pyloroplasty during the time of a benign pyloric ulcer will divert the irritating foods and gastric juices sufficiently to allow of healing before malignancy occurs. When the ulcer is near the cardiac end, accessible and of any considerable size and depth, a total excision of the indurated mass, with a goodly margin of normal tissue, will do much to prevent the possible malignant development.

Recently Crile has been experimenting on a method for testing the blood in cases of suspected malignancy, it being presumed that the blood of a cancer patient possesses certain hemolytic properties. So far Crile reports[1] about eighty cases, in 80 per cent. of which the test has proved positive. If this method proves reliable there will be little or no excuse for gastric carcinoma reaching the inoperable stage.

Until the laity can be taught to realize the significance of early digestive disturbances, and that indigestion is the signal for medical counsel, we must expect a certain number of hopeless cases drifting in after the advertised cure-alls have been exhausted. As with tuberculosis, there should be an aggressive campaign carried on with the public, so they may not drift into these malignant conditions unwarned.

It is without doubt true that gastric carcinoma is as amenable to treatment (either by early dietetic, hemolytic or radical means) as is tuberculosis, but that mortality from malignancy is on the increase, present statistics would seem to prove. A case which recently came under my care will best illustrate the atypical type, an ulcer case which drifted into an inoperable gastric carcinoma:

Patient.—Mrs. M. F., aged 59, resident of Oklahoma, housewife. Family history negative. A son, aged 29, died with a recurrent epithelioma of the lower lip about five years ago.

History.—The patient had always had good health until about eighteen months ago, when severe pain occurred in the epigastrium two or three hours after meals. She had never had nausea, vomiting, hematemesis or bloody dejections. Her usual weight had averaged about 150 pounds; present weight, 111 pounds. She had borne eight children, deliveries being normal. During the past five months she had been extremely limited in her diet, owing to the severe pain which occurred two hours after each meal. This was accompanied with considerable acidity which alkalies relieved.

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[1] Crile, George W.: The Cancer Problem, The Journal A. M. A., June 6, 1908, l, 1883.

Examination.—The patient presented a wasted appearance. Her skin was rough and shrunken, with a suggestive cachectic hue. There were no enlarged cervical, axillary or inguinal glands. The abdomen showed a bulging in the left upper quadrant about three inches to the left of the median line. There was a well-defined tumor apparently adherent to something; it did not feel nodular, but was very tender, and measured about 5 by 7 cm. A test breakfast of toast and tea gave a total acidity of 40, hydrochloric acid 22.5. Although seeds had been given the previous evening, none were present in the siphoned stomach contents, and the total quantity removed after fifty minutes' digestion did not exceed an ounce. When the stomach was dilated with a Seidlitz powder the lower border did not show a downward displacement, nor did the gas give her distress. Dr. J. N. Hall, seeing the case with me, gave a tentative diagnosis of early malignancy, probably on an old gastric ulcer, and an exploratory operation was advised and accepted.

Operation.—At St. Joseph's Hospital, June 20, 1908. Median incision in upper abdomen. The pylorus was unobstructed, and there were no adhesions anywhere about this end of the stomach or the gall bladder. A number of glands about the lesser curvature were indurated and the greater curvature of the stomach was adherent to the parietal peritoneum for about 7 cm. from the Mikulicz-Hartmann line toward the cardiac end. The adhesions were from the mass, which was decidedly nodular; as large as a goose egg, and involving both the anterior and posterior surface of the stomach. To the pyloric side of this mass was a well-defined circular cicatrix which merged into the malignant tumor, thus showing conclusively its origin on the base of an old gastric ulcer. As there was no obstruction to the pylorus, and the tumor extended so far to the left (requiring practically a total gastrectomy) and in view of the associated glandular enlargement about the lesser curvature, it was considered to be an inoperable case and the abdomen was closed with silkworm sutures.

Postoperative History.—The patient was up in a chair in five days and out in a week, and is now eating more heartily and relishing her food better than she has for the past two years. This result has been accomplished by giving her the natural Carlsbad salts before meals, thereby reducing the hyperacidity and provoking several free evacuations daily. Recent reports (October 1) are that she has no pain from hyperacidity, is gaining in weight and eating well. There is, however, the early appearance of inguinal adenitis on the right side. This I believe to be one of those lost opportunities previously referred to, for had she been given the benefit of an early exploratory operation eighteen months ago, an excision of the ulcer-bearing area would no doubt have spared her the present hopeless life as a victim of malignant disease.

BELLADONNA POISONING.

IRVING WILSON VOORHEES, M.S., M.D.

NEW YORK.

Patient.—May 27, 1908, I was called to see W. B., male, aged 29.

History.—The patient complained of impaired vision and felt certain that he was becoming blind. The difficulty had increased progressively for twenty-four hours, during which time he had been unable to read written or printed matter; he had also been obliged to give up his work at his office. Previous to this he had been well except for a slight pain in his right side and declared that he had not taken medicine of any kind for a year.

Examination.—Both pupils were greatly dilated. They were equal in size but did not react to either light or accommodation. The eye-grounds were normal. The mouth and throat were dry and parched; the pulse was rapid and irregular and the skin dry like parchment. The patient was very nervous and seemed greatly worried about his condition. In reply to questions he stated that for several days he had been wearing a porous plaster on the right side because of a "stitching pain in the liver," and that he had also rubbed this area with a "patent medicine" for two days before applying the plaster.

Treatment.—The plaster was removed with some difficulty; the true skin was exposed beneath the plaster and for some distance around it. I prescribed physostigmin sulphate for the eyes and gave morphin sulphate, ⅛ grain, hypodermatically. The patient was put to bed and was well in twenty-four hours.

I am told that the condition is not at all uncommon, but I have never seen it reported.

3544 Broadway.

A NEW STYLE TONSIL FORCEPS.

ERNEST MORAWECK, M.D.

LOUISVILLE, KY.

The advantages of the instrument here shown over other similar instruments are as follows: The blades or teeth are so constructed that they grasp a considerable portion of the tonsil, but do not tend either to crush off or tear out the grasped portion; consequently, having once engaged the tonsil they remain in place from the beginning to the end of the operation, even in case of a very friable tonsil. The extreme lightness of the instrument, its small size, and the bend of the handles insure its remaining in position throughout the operation without either dragging unduly on the tonsil by its weight, or interfering with the manipulations of the operator. Scissors, knives or dissecting instruments of any kind may be used around it with the greatest ease. It interferes in no way with the patient's comfort.

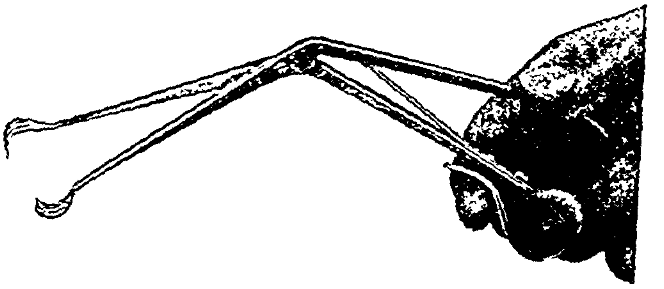

Fig. 1.—Tonsil forceps ready for use.

A tonsillotome or the loop of a wire snare, no matter how small, can always be introduced over it, either over the whole finger-end at once, or, in case of a very small loop, by introducing it through and around the open handle of the instrument. In the latter case, it is only necessary to bear in mind the position the loop of the snare will occupy after it has made the complete turn that will, of course, result from its introduction in this manner.

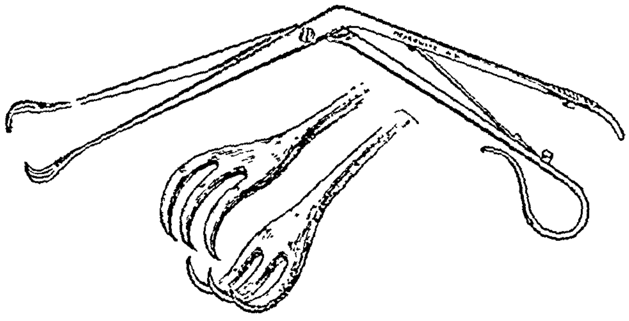

Fig. 2.—Details of tonsil forceps

A more secure hold on the tonsil usually can be obtained by introducing the instrument diagonally across the tongue; that is to say, for the right tonsil the forceps should be introduced from the left side of the mouth, and vice versa. Once, however, the tonsil is grasped by the prongs of the forceps, the instrument can be either manipulated or allowed to hang in the most convenient position.

External counter-pressure in case of submerged tonsils is often a distinct advantage in enabling one to secure a firm hold on the tonsil.

The blades of the instrument are instantly released by a pressure on the spring catch with the thumb of the hand holding it.

This instrument is made by E. B. Meyrowitz, New York.

COMPOUND, COMMINUTED FRACTURES OF ALL THE MAXILLARY BONES.

F. E CLOUGH, M.D.

LEAD, S D

Patient.—J. L. M., aged 27, an American, fell over an embankment thirty feet high, striking on his face in a pile of rocks

Injuries—The inferior maxilla was fractured obliquely just to the middle of the body; there was no displacement of the fragments and but little mobility. In the left superior maxilla the line of fracture extended from between the lateral incisor and canine teeth backward through the hard palate to the horizontal plate of the palate bone, then outward to the pterygoid process and then forward above the base of the alveolar process to the incisor tooth, opening up the antrum of Highmore and lacerating the tissues badly. This large fragment was very loose and hung by periosteum only against the lower jaw. The alveolar process of the right superior maxilla wes fractured at its base from the lateral incisor to the pterygoid process The fragment was slightly depressed and movable, though the antrum was not opened. The intermaxillary bone was fractured into two pieces so that the two right incisors were knocked out. and the two left incisors were very loose. There was an oblique cut through the lips, extending along the left side of the nose and down onto the chin. The patient had always had about one half inch protrusion of the lower jaw and could not normally bring the incisor teeth together. At first sight this gave the appearance of an anterior dislocation of the lower jaw.

Treatment.—The difficulty in treatment was to rebuild the alveolar arch and at the same time bring the fragments against the body of the bone A silver wire was looped around the canine teeth of both superior maxillæ and made to include the two loose incisors: this brought the arch in good apposition In order to hold up the depressed portion of the left superior maxilla a silkworm suture was looped around the canine tooth beneath the silver wire; the ends were sutured through the periosteum of the malar bone, brought out through the skin over that bone, and tied over a piece of rubber tubing to prevent cutting In order to maintain the proper degree of tension a small rubber band was stretched between the silkworm suture and an adhesive plaster strip on the forehead. A similar procedure was used on the right side. This method was adopted only as a temporary measure until an interdental splint could be constructed, but it worked so satisfactorily without any cutting of the skin or inconvenience to the patient that no further measures were necessary. Drainage was put in the left antrum, the wounds sutured and a split tail bandage used for holding the inferior maxilla.

Convalescence.—No complications developed and there was an uneventful recovery. At the end of a month the superior maxilla of the right side and the inferior maxilla were solid, while the intermaxillary portion and the left side were slightly movable. The silkworm sutures were removed at this time and the silver wire was removed two weeks later when union was complete. The man returned to work at the end of the second month with no deformity of the upper jaw remaining.

ABSCESS OF THE NASAL SEPTUM, PROBABLY DUE TO ANTHRAX INFECTION.

J. G. PARSONS, M D.

SIOUX FALLS, S. D.

Patient—John H., aged 30, whose previous health had been excellent, on August 15 consulted Dr. Haberman of DeSmet, S. D., about his nose, which was sore and red on the tip. He gave a history of having felt ill for a few days previous, but had continued his work

Clinical Course—The doctor could discover no abrasion and nothing was done On the following night, however, he was called to see the patient, whom he found suffering severe pain, with a general headache, more especially in the vertex. His temperature was 102 5, his nose swollen full and very sensitive to touch The patient was greatly prostrated. He was given acetanilid and camphor monobromate, which relieved the headache and caused him to sweat profusely. On the 18th the temperature had dropped to 101, where it remained for the next ten days On this day I was called and found the patient suffering intensely, with very marked swelling of the nose and fulness indicating abscess of the septum. The pain was so intense that the application of powdered cocain to the mucosa seemed to have little or no effect

Operation—Accordingly, while three men held him, I made a free incision on either side of the patient's septum with a cataract knife A quantity of sanguinolent pus discharged, relieving the tension and easing somewhat the pain in the head During the next ten days Dr. Haberman opened the abscess six times, evacuating a bloody serum each time. The wound showed a marked tendency to close. No packing was used, and an occasional irrigation with a weak, antiseptic solution was given

Microscopic Examination—On the 22nd smears were made of the secretion and examined by Dr. Haberman and his colleague, Dr. Dyar These smears showed morphologically characteristic anthrax bacilli. Unfortunately, no cultures were made, but the doctors report the microscopic appearance to be unmistakably that of anthrax No pus cocci were found

Sequelæ.—During the course of the disease the patient developed two bullæ on the back of the hand, having received the infection when wiping his nose. The discharge was identical with that from the nose. These bullæ were opened immediately and cauterized with pure carbolic acid, but continued to discharge for about eight days. The discharge from the nasal wounds continued for about a month, and gradually disappeared, the patient making a good recovery without destruction of the septum.

Therapeutics

HYPNOTICS III.

PARALDEHYD.

Paraldehyd is a colorless liquid, pungent, irritant, and of a disagreeable odor. While theoretically it should be a stimulant and its action resemble that of alcohol, practically it is such a strong narcotic and hypnotic that its soporific and prostrating effects overcome any stimulant action that it possesses. Its action on the skin would be irritant, especially if its rapid evaporation were prevented. On mucous membranes it causes burning, and if not well diluted irritation and even inflammation. It is so active in this respect that it is even difficult to swallow it into the stomach without choking unless its evaporating and burning properties are held in check by iced water. It is so rapidly absorbed from the stomach that its effect is sometimes almost instantaneous. The heart is quickly stimulated, the pulse bounds and throbbing is felt in the head and arteries of the neck similar to that produced by a large dose of a nitrite.

and the patient becomes momentarily dizzy and later faint. The dizziness is due to an increased cerebral circulation, while the faintness is probably due to the dilated blood vessels of the body causing slight cerebral anemia. An uncontrollable desire to sleep quickly develops and the patient may be sleeping soundly in five or ten minutes. How much of this sudden sleep is due to an actual narcotic effect on the brain, and how much is due to an anemia of the brain caused by a rapid dilatation of the blood vessels of the body, has not been determined. On account of the stimulant effect on the heart and the lack of any profound nervous poisoning from the drug, even large doses have *not produced death,* although frequently the *first symptoms from paraldehyd* are so intensely disagreeable and disturbing to the patient that he or she will refuse to ever take the drug again. Large doses, however, can produce a condition of unconsciousness from which the patient, at least temporarily, can not be aroused.

It is excreted mostly in the urine, but considerably by *the lungs, and imparts a disagreeable odor to the breath* for some hours after the patient awakens.

The sleep caused by paraldehyd is not protracted, and with a therapeutic dose is normal, and the patient awakens without any prostrating effects. It is a hypnotic to which the system becomes used, and larger doses are required to produce sleep; also a paraldehyd habit can be *formed,* the patient not only learning to need a hypnotic, but *craving the stimulation* which paraldehyd causes. It seems to have a greater action in a smaller dose in young patients than in those that have a high blood pressure; in other words, patients who can stand a large dose of nitrites without discomfort will require a large dose of paraldehyd to produce sleep. *It is not analgesic, and* except in large doses will not relieve pain, and if the pain is severe its hypnotic action would be counteracted *unless the dose were excessive. In weakened conditions of the heart* it is a safer hypnotic than chloral, and is used frequently in the delirium of serious illness, as pneumonia and typhoid, but not always successfully. It is so likely to disturb the stomach in serious conditions that generally it should not be used. It is frequently used as a hypnotic in delirium tremens, and probably acts satisfactorily in this disease through its various activities, i. e., the throat and stomach irritation is *satisfactory to the alcoholic patient,* the stimulation of the *heart is not unlike* that of alcohol, and if the dose is sufficient it may produce the much desired sleep.

If a poisonous dose has been taken, or if unexpected intense action is developed from a therapeutic dose, the treatment would be that of a narcotic depressant poison and similar to that of chloral. An emetic should be administered if the patient is seen soon after ingestion of the drug. *The body should be kept warm with dry heat,* and hypodermatic *injections of strychnin,* camphor and adrenalin solutions should be given. Atropin could be used if deemed necessary.

The official preparation is Paraldehydum, and the dose is 2 c.c. or 30 minims.

Various menstrua have been suggested in which to administer this disagreeable drug, but there is no menstruum better than iced water, as:

℞.

	c.c.		
Paraldehydi	50	or	fl.℥ii

Sig.: A half teaspoonful on cracked ice and water at bedtime.

Ordinarily when this drug is administered the patient should be already in bed and the room quiet and prepared for sleep.

It may also be administered as follows:

℞.

	c.c.		
Paraldehydi	50		fl.℥ii
Glycerini	25	or	fl.℥i
Aquæ, ad	100		ad, fl.℥iv

M. et sig.: A teaspoonful, in plenty of water, at bedtime.

The National Formulary recognizes an Elixir Paraldehydi, the dose of which is 8 c.c. (2 fluidrams), which represents 2 c.c. (*30 minims*) of paraldehyd. The ordinary dose is *two teaspoonfuls, administered* in plenty of water.

BLEPHARITIS.

Dr. Aaron Brav, Philadelphia, in the *Therapeutic Gazette,* August, 1908, discusses the treatment of this troublesome condition. While this inflammation may occur at all ages, it is most frequent under the age of 20. Unhygienic surroundings seem to predispose to it, and errors of refraction are, of course, the most frequent cause. Occupations which call for close eye work with insufficient light predisposes to the condition, again a species of eyestrain. Consequently it is useless to inaugurate treatment of blepharites until errors of refraction are corrected by glasses or the use of the eyes with improper light is prevented.

There are various grades of this inflammation, viz., "*simple hyperemia, squamous blepharitis, pustular* blepharitis, and eczematous blepharitis." The hyperemic variety will soon be cured by glasses, if they are needed, and the correction of habits that are debilitating, and the improvement of unhygienic surroundings. The squamous variety often leads to recurrence of sties and is likely to be associated with some "conjunctivitis, constitutional dyscrasia, nasopharyngeal disease, and perhaps obstruction of the tear duct," all of which should be corrected while the disease itself is locally treated. The ulcerative or pustular form of the inflammation is tedious of recovery and if not treated early tends to cause "ectropion or eversion of the puncta." The eczematous variety is likely to be associated with eczema on other parts of the body, especially the face and scalp.

Unless *the patient is over 40 it is unsatisfactory* to attempt to correct errors of refraction without a cycloplegic, as atropin or homatropin. Most patients also need a sedative lotion for the eye, as there is so likely to be a coincident, though mild, conjunctivitis. For such inflammation Brav recommends the following eye wash:

℞.

	gm. or c c.			
Acidi borici	2			ʒss
Zinci phenosulphonatis		15	or	gr. ii
Aquæ camphoræ	15			fl.℥ss
Aquæ destillatæ, ad	*100*			ad, fl.℥iii

M. et sig.: Bathe the eyes with this solution, three times daily.

Also efficient is the following used as eye drops:

Acidi borici		25		gr. v
Aquæ camphoræ	15			ad, fl.℥i
Aquæ destillatæ, ad	25		or	fl.ʒv

M. et sig.: Place two or three drops in each eye *three* or four times a day.

Brav believes that massage *of the* affected lids is a very important therapeutic measure and is best done with the aid of an ointment, and he prefers lanolin (adeps lanæ hydrosus). Gentle massage made by horizontal stroking movements on the closed lids with the index finger, carried from the inner to the outer angle of the palpebral fissure, and lasting from three to five minutes, relieves venous congestion and stimulates the activity of the lymphatics, and absorption of inflammatory products is increased. This ointment, or vaselin if preferred, will soften the scales and allow them to be removed; thus aiding in getting rid of the blepharitis. Such massage is best done at bedtime, when some of the ointment may be left on the lids. In the morning the ointment may be washed off, and with it will come many of the scales. The yellow oxid of mercury seems to be a most valuable medicament for healing the lesions of this inflammation. It may be ordered as follows:

℞.	gm.			
Hydrargyri oxidi flavi		10		gr. i
Olei olivæ, q. s.			or	q. s.
Petrolati	10			ʒii

M. et sig.: Apply at bedtime as directed.

This makes 1 per cent. of the yellow oxid of mercury. It should be remembered that the official yellow oxid of mercury ointment is 10 per cent.

Brav believes that in some cases salicylic acid ointment has a more favorable action, especially when there is much itching of the lids, as:

℞.	gm.			
Acidi salicylici		15	or	gr. ii
Adepis lanæ hydrosi	10			ʒii

M. et sig.: Apply as directed.

If the itching is very marked Brav uses a tannic acid ointment, as:

℞.	gm.			
Acidi tannici		15	or	gr. ii
Petrolati	10			ʒii

M. et sig.: Use as directed.

Occasionally he uses cocain as follows:

℞.	gm.			
Acidi tannici		15		gr. ii
Cocainæ		10	or	gr. i
Petrolati	10			ʒii

M. et sig.: Use as directed.

If the tannic acid preparations cause irritation they should be discontinued. If the itching persists, the dried secretion in the little glands should be carefully expressed from the ducts.

The general condition of the patient should always be investigated and, if necessary, corrected. Proper food should be given, the bowels should be regulated, and any tonic that is needed—especially iron—should be administered. Hot water applications to the eyelids may be necessary to get rid of the crusted secretions and to relieve congestion; also diseased cilia should be removed, especially in the pustular type of the inflammation.

Sometimes Brav finds it necessary to stimulate a sluggish process with a 1 per cent. solution of nitrate of silver.

Of course syphilitic or rheumatic patients should receive the treatment called for by the systemic condition.

THE OIL RUB.

The almost forgotten advantages of anointing the body with oil is brought to our notice by the *Dietetic and Hygienic Gazette,* September, 1908. The practice of anointing the body with oil goes well back into ancient history, and is still practiced by the natives of Africa, Samoa and the South Sea Islands.

The body should first be bathed with warm or tepid water, dried, and the oil then applied; it should not be applied to the dry, unwashed skin. The oil should, of course, be pure and clean, should be well rubbed into the skin, and any surplus should be removed with a soft towel. Some knowledge of massage is necessary to a successful oil rub, and the rubbing should not be sufficiently vigorous to cause perspiration. The best oil for this purpose is pure olive oil, cocoanut oil or palm oil; cottonseed oil may be used. Animal fats do not make an ideal oil rub.

In temperate climates it is probable that the main advantages from such anointing is due to the massage; in other words, the circulation of the skin is improved, the muscles are cleansed of excrementitious products by such debris being forced into the lymph circulation, and the blood flow through the muscles is improved. The oil rub has also a good therapeutic use when the skin of the patient is always dry and scaly. Such people probably do not have a normal secretion from the thyroid gland, but whatever internal medication is deemed advisable, the oil rub will add to the improvement of the skin condition.

In tropical countries the oiled skin radiates heat more rapidly than the dry skin when little or no clothing is worn. On the other hand, in cold countries where much clothing is needed the oiled surface of the body keeps the body warmer. It also seems to be a fact that after hot bathing a patient who catches cold readily has less liability to chilling if an oil rub is given.

Locally, oil rubbing may be used, after hot bathing, for cold feet or cold legs, and the feet of such patients will remain warm longer than without it.

Although it has been stated that oil may be rubbed into the body so as to increase nutrition and that weakly patients, especially infants, will improve, it is still a question if it is not the general toning up of the circulation, the equalization of the circulation, and the prevention of flabbiness of muscles, in other words, the effects of the massage, that are the real cause of the improvement in the general condition.

THE SCOTCH RUB.

The *Dietetic and Hygienic Gazette,* September, 1908, calls attention to this method of obtaining a better circulation in the skin as described by the *British Journal of Nursing.* It is applicable to patients to whom a cold water rub is unpleasant, and consists in washing a part of the body with hot water, not too hot, and then rubbing with cold water, with a towel. "If under such applications the skin slowly reddens or stays pale and the skin muscles are contracted, it means an abnormally high excitability of vessel innervation." This condition is found in anemia and in some feverish conditions. "A livid redness of the rubbed area means circulatory insufficiency," while a slow rewarming or continued coolness of the treated area in high fevers "is suggestive of a pending circulatory collapse." The advantages are that the friction is a mild stimulant and causes the rubbed area to radiate heat normally, while it also increases evaporation.

The advantage is that this method is pleasanter to most patients than the cold sponging done to reduce the temperature, and while not tending to lower temperature immediately as well as does the typical cold sponging, it does tend to keep the surface of the body in a healthy condition and causes the skin to give off heat rather than to retain it.

Diagnostic Blood Findings in the Fourth Disease.—Leon states that it is easy to differentiate the so-called "fourth disease" or "Duke's disease" from measles and scarlet fever by the striking hypoleucocytosis and mononucleosis. He gives some comparative tables showing the average findings in a recent epidemic; a glance through the microscope at a drop of blood will confirm the diagnosis and exclude measles and scarlet fever. His communication is published in the *Semana Medica,* July 30, 1908.

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SATURDAY, NOVEMBER 14, 1908.

RESEARCH AND MEDICINE.

"Research signifies effort directed toward the discovery of laws and principles through the systematic collection of new and better correlations of existing data. It means the utilization of hitherto latent or wasted energy. The aims of research are not culture, not miscellaneous information, not a mode of leisurely meditation on the origin of things, but mainly utility and service to mankind."

These statements by Theobald Smith, while general, apply especially to research in the field of medicine. Research is too often considered as peculiarly difficult, requiring unusual and special qualifications and only to be indulged in by a certain few whose sole ambition is to gain fame by making some important discovery. This is by no means true. The methods are straightforward, natural, simple, common-sense methods, but complete, thorough, orderly and precise. Research is work in which absolute honesty is demanded on every hand, for lacking this its very purpose is defeated.

The great discoveries and generalizations in science and medicine have been made usually after years of systematic and conscientious labor. As a rule they evolve rather than flash into existence in a moment. Twenty-three years elapsed from the time Darwin first published notes on the evolutionary theory till it emerged in its complete form — "The Origin of Species." It is said that Bacon delayed the appearance of the "Novum Organum" for twelve years, and each year added something. Harvey withheld the publication of his views on the circulation for twelve years.

All research profits and is made possible by work that precedes it. This work may be of little significance and of no practical value in itself, but taken in relation with other facts it may help to solve the most mysterious and difficult problems and be of the greatest practical importance. It is never safe to predict in regard to the significance of facts. There is only one safe method and that was used by Darwin, namely, to note every detail carefully, feeling sure that in the final causal interpretation of phenomena each and every one of these details will find its place and there be of great significance. The question is too often asked: Of what use is this or that piece of work? If the practical side is not clearly evident the whole is considered a waste of time and worthless. The important questions to ask are: Is it true? Are these statements of facts? Are these true principles? If so, the work is amply justified. Of course there is a scientific perspective. All facts are not of equal importance. Some stand prominently in the foreground; others are mere subsidiary detail; but in the final picture, in the complete interpretation, all are essential.

At present many physicians look on the work in the laboratory as scientific because certain phenomena are here more carefully analyzed perhaps than seems possible in a clinic or at the bedside. But the spirit of true practical medicine is scientific. Its aims are utility and service to mankind. Facts are being observed and correlated and their meaning determined. The apparatus may be different, but the methods are fundamentally the same as those of the laboratory. Why should an accurate physical examination of a patient be less scientific, for instance, than the chemical analysis of the blood or observations on the biology of the tubercle bacillus? The ultimate aim is the same, and though the end in view in the former is more immediate than in the latter the difference is not such as to justify calling one scientific and the other non-scientific. Scientific medical research must not be confined altogether within the walls of the laboratory; a large part of it must necessarily be done there, for medicine draws on the more fundamental sciences for aid, and this requires more or less elaborate laboratory facilities. What is desired is the greater use by physicians at the bedside of the general methods in vogue in scientific laboratories, where are demanded careful observations, painstaking analysis, logical reasoning, accurate and systematic records.

"No great discovery in science is ever without a corresponding influence on medical thought, not always evident at first, and apt to be characterized by the usual vagaries associated with human effort" (Osler[1]). Laboratory workers and practicing physicians should come nearer together and attempt to understand each other better. Often pure scientists and experimenters are inclined to be radical, sometimes impractical, and liable to be carried away by fanciful theories. And sometimes they are justified in letting their imaginations soar to heights which physicians perhaps dare not attain; this not infrequently leads to valuable working hypotheses that may bring forth important facts.

On the other hand, the scientific man, the laboratory worker, should realize that physicians must have at least one foot on solid ground; they must be conservative yet tolerant of new ideas, always willing to consider and apply them in legitimate ways; they must be sympathetic toward the new, knowing that in time the grain will be sifted from the chaff and truth appear.

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[1] The Growth of Truth. Harveian Oration, London, 1906.

HONORS TO A PHYSICIAN INVENTOR.

During October of this year specialists gathered in Paris from all over the world to discuss at an international congress of the refrigerating industries the scientific and practical problems connected with that subject. At that congress Edmond Carré, a French scientist, was acclaimed as the inventor of the first practical ice-making machine: but there seems to be no doubt that this glory really belongs to Dr. John Gorrie, a native of South Carolina.

The last number of *Uncle Remus's Home Magazine*[1] contains an account of Dr. Gorrie, about whom one would gladly know more. He is said to have been one of the foremost practitioners in the south in his day, and to have made many valuable contributions to medical literature, although he died in 1855 at the comparatively early age of 52.

The point in regard to Dr. Gorrie's invention which does him most honor is that it was made for the comfort and welfare of his fever patients. In 1845, when Dr. Gorrie was practicing in Apalachicola, that town, though the most important Florida seaport, being the outlet for all the cotton grown in the Chattahoochee valley in Georgia and Alabama, was seriously hindered in its growth by the prevalence of various fevers in the summers. Dr. Gorrie found it almost impossible to treat fever patients successfully during the hot weather. He realized that cooling the patient's room would undoubtedly be of benefit, and he, therefore, set himself to devising various methods of cooling air and water. In 1850 he succeeded in producing small blocks of ice about the size of the ordinary building brick. A French cotton buyer, M. Rosan, residing in Apalachicola, saw the machine in operation and induced the inventor to give a public demonstration at the leading hotel. Ice made with the machine, which was placed on a table in the dining-room, was served to all those present at a banquet. M. Rosan later returned to Paris and is known to have been in intimate association with M. Carré, whose process of making ice was not perfected until 1855. There seems no doubt then that the Frenchman was spurred to renewed efforts, if not actually prompted to the idea of his invention, by the news of the successful experiment made by the American physician.

When the patent was issued for Dr. Gorrie's ice-making machine northern newspapers made great fun of it, because the natural supply at the north was so bountiful that no one could possibly think that ice would ever become sufficiently valuable to render its manufacture profitable. There is scarcely any need to say how utterly wrong this forecast was, and how much artificial refrigeration has come to mean for sanitation and hygiene in ways undreamed of then. It seems not unlikely that if the pollution of our streams and lakes goes on considerations of public health will forbid the sale, at least in our large cities, of any ice except that made from distilled water or that gathered from carefully protected bodies of water.

In recognition of his splendid original work a monument to Dr. Gorrie has been erected in Apalachicola chiefly at the expense of the ice manufacturers of the south. There is now under way in Florida, we understand, a movement to place a statue of this pioneer inventor in one of the niches alloted to that state in the National Hall of Fame. Not only Dr. Gorrie's native and adopted states, but the whole south—indeed, the medical profession of the entire country — should be interested in securing for this devoted physician and neglected inventor the distinction that he deserves as a scientific student of medical problems, working for the benefit of his patients and devising a great sanitary invention calculated to be of ever-increasing benefit to humanity.

RESISTANCE OF TUMOR CELLS, EMBRYONIC TISSUE AND ORGANISMS TO FREEZING.

In the last few years investigation of tumors has made considerable progress chiefly through experimental work on animals The fact that animal tumors, especially in mice and rats, can be reproduced almost at will has afforded an excellent field for studying their nature and growth, and a large amount of interesting data is at hand. Several British observers—Moore, Walker, Barrat—claim to have shown that mouse cancer tissue is capable, even after being frozen, of producing tumors of the same character as the original. The explanation suggested is that the cells themselves are killed by the freezing and that a causal virus, possibly a bacterium or trypanosome, resists the low temperature and later stimulates proliferation of cells in the inoculated animal. Gaylord[1] in this country has repeated this work and added some facts of interest. His aim was to compare the effects of freezing by means of liquid air on transplantable mouse cancer, embryonic tissue, and trypanosomes. He found that while the percentage of growths of transplanted tumors after freezing was much reduced and the growth much slower, still in a certain number of cases the tumor cells multiplied and, even after eighty minutes' exposure, produced tumors identical with the original.

It is known that embryonic tissue when inoculated under the skin of an animal of the same species will continue to proliferate for weeks or months, then finally degenerate and become absorbed, never producing a permanent and constantly growing tumor. Inasmuch as the work concerning the nature of tumors centers around the problem of growth of cells, and in view of the fact that Ribbert's theory of the growth of misplaced tissue is a commonly accepted theory of the cause of tumors, the results obtained by Gaylord with transplanted frozen embryonic tissue are of interest. He found that such tissue gave no sign whatever of proliferation in marked contrast to the transplanted tumor tissue. The biology of these two types of cells in this respect at least appears to be distinctly different.

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[1] November, 1908.

[1] Journal Inf Dis., 1908, v. 443.

It is well known that many bacteria are not killed by exposure to the temperature of liquid air for considerable periods of time. Gaylord shows, too, that *Trypanosoma gambiense* is more resistant to low temperatures than embryonic epithelium, not being killed by exposure to a temperature of liquid air for twenty minutes; forty minutes' exposure, however, is fatal. These facts would seem to suggest that the cause of tumors may be more closely associated with the presence of some form of infection than with purely proliferative or embryonic processes; but at the same time it should not escape consideration that the tumor cells of themselves may be more resistant to cold than normal embryonal cells. The facts cited, while interesting and important, are not sufficient to force us to adopt a microbic theory of cancer. Indeed it is not a bit stranger that tumor cells should survive freezing than that certain bacteria and trypanosomes do so.

THE CHECKING OF EPIDEMIC DISEASES.

The conclusions relative to the checking of epidemic diseases drawn by Health Commissioner Evans in a recent number of the Chicago Weekly Health Bulletins are as scientific as they are sensible and sententious. They resolve themselves into the following propositions:

> Every case of contagious disease results from somebody's violation of the law.
>
> No epidemic situation can be allowed to drift. The policy of laissez faire will not work.
>
> The mailed hand will cure any epidemic situation in short order.
>
> The clergy, physicians, and good citizens generally can be depended on when they are stirred into activity.
>
> So long as the community backs the department of health it can guarantee them against general epidemics.

Evil doing that is based solely on ignorance, among persons naturally disposed to good as they see it, can be obviated permanently only when control is accompanied and tempered by education. On the other hand, when ignorance is grafted on a selfish indifference to the well-being of others, the enlightenment of the ignorant will not overcome the evil doing, save under compulsion of the "mailed hand." Education, therefore, is necessary to remove non-malevolence and to give that moral backing on which alone the force of law can depend. Control is essential, even in the case of the naturally well disposed, to give time for education to get in its work as well as to deal with those who are amenable to control alone. In those things that are for the common safety, therefore, we must have good laws and a competent and conscientious health board to administer them. With these in control, neither plague nor any other epidemic scourge can ever again in a civilized community attain to the devastating proportions it has reached in the past.

THE PRESENCE OF A MYDRIATIC SUBSTANCE IN THE URINE.

In a search for a vasomotor stimulant in the urine of nephritics J. Pal[1] applied the Ehrmann test for adrenalin to the urine of a series of patients suffering from nephritis and of a number of normal individuals. This test depends upon the mydriatic action of adrenalin on the enucleated eye of the frog and will react in the presence of adrenalin in a dilution of 1 to 10,000,000. Pal reported a positive reaction in about half of the nephritics and in 7 per cent. of the normal individuals examined. Martha Diem,[2] who has repeated Pal's experiments, obtained results that were somewhat similar, but she also showed that the presence of a mydriatic substance bore no relation to the degree of arterial hypertension and that such a substance was present in a large proportion of patients suffering from various other ailments. The mydriatic substance was not identified, but it seems highly probable that it is not adrenalin.

CHEAP POSTAGE AND THE NOSTRUM CIRCULAR NUISANCE.

That there would be disadvantages, as well as advantages, connected with the introduction of 2-cent letter postage between this country and Great Britain was to be expected, but it is rather surprising that the first complaint, so far as we have seen, should come from the medical profession of Great Britain. There seems to be a fear in the minds of the British profession—according to some of our British exchanges—that the benefits of the "penny postage" may be more than counterbalanced by the advantage that is likely to be taken of the cheap rate by the American nostrum promoters. The 1-cent circular hitherto in vogue has been easily recognizable and has consequently given rise to no greater trouble than that entailed by throwing it unopened into the waste-paper basket. The substitution of advertisements in the form of sealed letters which will require opening, and at least perfunctorily perusing, for the recognition of their nature, is an undoubted danger. The *Medical Press and Circular*, Oct. 31, 1908, commenting on this subject, states that it has "already been favored with one such circular, franked by a penny stamp or its equivalent value in the American postage." It adds that "the waste of all this expenditure of money in the case of drugs is lamentable. As a matter of fact, all the hundreds of thousands of pounds spent in advertised (*sic*) quack and proprietary remedies must be paid for by the consumers. That is partly why drugs or combinations of drugs are sold at many score times their real value." That such a danger should exist, however, is at once a justification for the crusade which the medical profession has been driven to in this country, and an appeal to all right-thinking physicians to lend their influence and energies to the suppression of a traffic so dishonest and humiliating to us. But while we sympathize with our British confrères in their dread of this new American invasion, we trust that their realization of it will be chastened by the reflection that the

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[1] Deutsche med. Wchnschr., 1907, xxxiii, 1735.

[2] Deutsches Arch. f. klin. Med., 1908, xciv, 1 and 2.

British medical press could do much to aid in suppressing the fraudulent nostrums concerning which it so bitterly complains, instead of abetting them, as it does by accepting their advertisements. It is particularly noticeable that in the very issue of the *Medical Press and Circular* from which we have quoted the above lament, the words quoted stand face to face with a full-page advertisement of antikamnia, one of the rankest of American nostrums.

Medical News

ARKANSAS.

Medical Department Opens.—The Medical Department of Arkansas State University opened for its thirteenth annual term, October 1. Dr. Morgan Smith made the opening address on the subject of "Medicine."

Personal.—Dr. William H. Barry has resigned as a member of the Federal Medical Board, Hot Springs, and Dr. Jacob W. McClendon has been tendered the position.——Dr. William P. Illing, Little Rock, was assaulted by an unknown person while driving near the city limits, October 9.

Society Meeting.—At the annual meeting of the Third District Medical Society, held in Forrest City, October 28, the following officers were elected: President, Dr. Samuel A. Southall, Lonoke; vice-presidents, the presidents of the nine component medical societies; secretary, Dr. Henry H. Righter, Helena; and treasurer, Dr. James O. Rush, Forrest City. Lonoke was selected as the meeting place for the next annual session.

State Antituberculosis Society.—The special committee appointed at the last meeting of the Arkansas State Medical Society met at the State House, Little Rock, and organized the Arkansas Association for the Study and Prevention of Tuberculosis. The following officers were elected: President, Dr. John S. Shibley, Paris; vice president, Dr. Arthur E. Sweatland, Little Rock; secretary, Dr. Malcue G. Thompson, Hot Springs; and treasurer, Mr. Shibley, Van Buren. The secretary of the association was directed to address letters to the secretary of each county medical society, ministers, the lay press, and school principals in the state, notifying them of the organization of the association and soliciting their individual membership.

COLORADO.

Personal.—Dr. William Wylie Jones, Denver, has been elected president of the medical department of the State University, Boulder; and Dr. Randolph Hudston, vice-president; Dr. William W. Grant, Denver, has been appointed lecturer on surgical gynecology.——Dr. Benjamin B. Beshoar, Trinidad, has been elected state senator.

Committee on Sanitation and Public Health.—Acting on suggestions made by Dr. Joseph N. McCormack, during his recent visit to the state, the Denver County Medical Society has appointed a committee of five to act for the society in all matters pertaining to sanitation, public health and pure food. The committee will endeavor to obtain an increase in the appropriation for the health office of Denver and for the State Board of Health. Three public meetings have already been arranged for the year, and the committee expects to publish in newspapers and other lay publications a series of papers prepared by members of the society and detailing important matters on which the public should be better informed.

GEORGIA.

Personal.—Dr. James C. Bloomfield, Athens, has been elected professor of medical jurisprudence in the University Law School vice Dr. Samuel C. Benedict, resigned.——Dr. W. B. Sumerall will probably be elected superintendent of Grady Hospital, Atlanta.

Society Meeting.—At the annual meeting of the Tenth Congressional District Medical Society, held in Augusta, November 4, the following officers were elected: President, Dr. Robert L. Miller, Tennille; and vice-president, Dr. George R. Maner, Warrenton. A resolution was adopted that Augusta be the permanent meeting place of the society.

Improvement in Medical College Plant.—The faculty of the University of Georgia, Medical Department, Augusta, is making extensive improvements in the city dispensary. A new clinic room is being built to supplement the one in present use. The building has been thoroughly cleaned and overhauled, and a new equipment installed. A schedule has been arranged whereby different members of the faculty of the college will alternate in service at the dispensary.

ILLINOIS.

Free Antitoxin.—The State Board of Health announces that it will furnish diphtheria antitoxin without charge to any person in the state who may need it, but only on application of the attending physician.

Accepts Hospital.—After a delay of two years, the city of Clinton has accepted the gift of a $25,000 hospital, made to the city by the late Dr. John Warner. The delay was caused by the disinclination of the city to defray the expenses of maintenance, and therefore the council refused to accept the building until the Warner heirs had provided a fund for this purpose.

Do Not Want Names Published.—The Lake County Medical Society, at its meeting in Waukegan, October 29, adopted resolutions regarding the publication of the names of physicians in relation to operations, injuries, and other medical matters, and requesting that the various papers of the county refrain from publishing the names of physicians under such circumstances.

Chicago.

Decrease in Pneumonia Deaths.—The mortality from pneumonia continues to decrease. There were 55 deaths last week from this cause, as compared with 58 for the preceding week, and 77 for the corresponding week of last year.

Quarantine Breakers Sued.—It is reported that Dr. William A. Evans, commissioner of health, has filed suits against twenty physicians, patients, and householders, charged with breaking the quarantine laws regarding scarlet fever and diphtheria.

Personal.—Dr. John Gordon Wilson has resigned as assistant professor of anatomy in the University of Chicago, to become professor of otology and head of the department in Northwestern University Medical School.——Dr. William Hessert has been appointed attending surgeon to St. Joseph's Hospital, Chicago.

Hospital Opens.—The new Maurice Porter Pavilion of the Children's Memorial Hospital was opened November 12, when the women of the auxiliary board held a reception for those interested in the hospital. A Wagner concert is to be given at Orchestra Hall December 7, the proceeds of which are to be used for the support of the hospital.

Mortality Returns.—During the week ended November 7, 539 deaths were reported, equivalent to annual death rate of 12.98 per 1,000. Compared with the corresponding week of last year, there were more deaths from diphtheria, diarrheal diseases, consumption, typhoid fever, cancer and nephritis; and fewer deaths from pneumonia, heart diseases, convulsions and violence. Chief among death causes were consumption, 76; pneumonia and nephritis, each 55; intestinal diseases, 51; heart diseases, 40; violence (including suicide), 37; and cancer, 25. Diphtheria caused 21 deaths; typhoid fever, 12; scarlet fever, 8; measles, 2; and influenza and whooping cough, each, 1 death.

Contagious Disease Situation.—A total of 607 cases of communicable diseases was reported to the department during the week ended November 7, 23 fewer than for the preceding week and 320 more than for the corresponding week of 1907. To this total, diphtheria contributed 187; scarlet fever, 181; measles, 56; tuberculosis, 55; typhoid fever, 45; chickenpox, 24; pneumonia, 17; whooping cough, 14; and diseases of minor importance, 28. As compared with the perceding week, there were 27 fewer cases of diphtheria, 42 fewer of typhoid fever, and 17 fewer of tuberculosis, while there were 4 more scarlet-fever cases, 34 more cases of measles, 8 more of chicken pox, and 7 more of whooping cough. At the close of the week there was one smallpox patient in the isolation hospital.

INDIANA.

Society Meetings.—A Physician's Library Club has recently been formed at Princeton, with Dr. George C. Kendle, president, and Dr. Alois L. Ziliak, secretary.——At the annual meeting of the Fourth District Medical Society, held in Madison, October 22, Dr. Harley H. Sutton, Aurora, was elected president; Dr. Curtis Bland, Greensburg, vice-president; Dr. James M. Shields, Seymour, secretary; and Dr. James H. Green, North Vernon, treasurer.——At the annual meeting of the Eleventh District Medical Society, held in Wabash, October 22, Dr. Jared Spooner, Peru, was elected president; the presidents of the seven component county medical societies, vice-presidents; and Dr. Morris H. Krebs, Huntington, secretary-treasurer.

Disease and Death.—The total number of deaths reported in the state for September was 2.755, equivalent to an annual mortality of 12.3 per 1,000. The order of disease prevalence for the month was as follows: Typhoid fever, diarrhea, tonsillitis, bronchitis, rheumatism, cholera infantum, intermittent and remittent fever, cholera morbus, dysentery, diphtheria, pleurisy, influenza, scarlet fever, pneumonia, erysipelas, typhomalarial fever, smallpox, whooping cough, cerebrospinal meningitis, chickenpox, measles and puerperal fever.——During the month 318 deaths were caused from tuberculosis, 302 from diarrheal diseases, 217 from violence, 139 from cancer, 95 from pneumonia, 29 from diphtheria, 21 from whooping cough, 14 from cerebrospinal meningitis, 7 from puerperal fever, 5 each from influenza and scarlet fever, and 1 from measles.

Personal.—Dr. John M. Kitchen, Indianapolis, is ill in the Methodist Hospital with cerebral hemorrhage.——Dr. Harry C. Sharp, Jeffersonville, for eleven years physician at the state reformatory, has retired and has been succeeded by Dr. Harry P. Smith, Kokomo.——Dr. Charles S. Mack, La Porte, coroner of La Porte County, has announced his intention of resigning and entering the ministry.——Dr. Josephine M. Mitchell, Lafayette, has returned from abroad.——Dr. E. B. Mumford, Indianapolis, has been appointed special physician of the city board of health to supervise the inspection of contagious and infectious diseases.——Dr. Charles A. O'Brien, Fillmore, has resigned as physician and coroner of Putnam County. Dr. Walter R. Hutcheson, Greencastle, has been appointed to fill the unexpired term as county physician.——Dr. Edwin O. Harrold, Marion, fractured his right clavicle in a carriage accident, October 13.——Dr. Elihu T. Mendenhall, New Castle, is reported to be seriously ill with heart disease.

LOUISIANA.

State Board Organizes.—The new State Board of Health has been organized with Dr. D. Harvey Dillon, Many, president; Dr. Beverly W. Smith, Franklin, vice-president; and Dr. Joseph A. Estopinal, Hahnville, secretary.

Dedicatory Exercises.—At a meeting of the board of administrators of the Charity Hospital, New Orleans, November 2, it was announced that the Delgado Memorial Building was almost completed, and would be ready for official acceptance November 10.

Dinner to Dr. Irion.—On October 1, a dinner was given in honor of Dr. Clifford H. Irion, the retiring president of the State Board of Health, Dr. R. E. Blouin, director of the sugar experimental station, and Dr. Paul E. Archinard, bacteriologist of the State Board of Health.

Personal.—Dr. Richard F. Harrell, Alexandria, has returned from Europe.——Dr. Lewis H. Pirkle, secretary of the Shreveport board of health, has resigned.——Dr. Quitman Kohnke has been elected president of the Covington branch of the Louisiana Antituberculosis League.——Dr. J. Ashton Blanchard, Shreveport, has resigned as surgeon First Infantry, La. N. G. and has gone to Europe.

Clinics Open.—The New Orleans Polyclinic, the post-graduate medical department of the Tulane University of Louisiana, opened November 2.——The free tuberculosis clinic of Tulane University was inaugurated with formal ceremony November 2. This clinic is the first of such institutions to be established in various parts of New Orleans under the auspices of the Antituberculosis League.

Extension Lectures.—The faculty of Tulane University announces a course of extension lectures, which began October 28. The course includes a series of lectures by Prof. George Dock on "Ductless Glands," to be followed by lectures on special subjects, by Surgeon C. W. Stiles, P. H. and M.-H. Service; F. Creighton Wellman of the Bureau of Agriculture; Dr. William A. Evans, Health Commissioner of Chicago; Dr. W. H. Dalrymple of the Louisiana State Department of Agriculture, and others.

Osteopaths Need Not Register.—Benjamin T. Waldo, attorney of the State Board of Health, has written an opinion in which he holds that under the several sections of the law on the subject, the State Board of Health can not receive for recordation the certificate of any osteopath in the state. The law provides that osteopaths shall exhibit their diplomas and qualify before the osteopathic board, and furthermore, that the osteopath, when qualified, can register his certificate with the clerk of the district court. This registration admits him to practice his profession. Mr. Waldo asserts that there is no provision of the law that permits the State Board of Health to receive the certificates of osteopaths, and accordingly he upholds the action of the board in declining to receive certificates of those engaged in that practice.

MASSACHUSETTS.

Lowell Lectures.—Dr. Theobald Smith, professor of comparative pathology in Harvard Medical School, will give a course of eight Lowell lectures on "Our Defence Against the Micro-organisms of Disease," on Tuesdays and Fridays, beginning March 16, 1909.

Psychotherapeutic Course.—A course of lectures on the principles of psychotherapy, based on [illegible]s being inaugurated this year at Tufts Me[illegible] course will include mental physiology, dissociations of the mind, mental syntheses, special pathology and methods of examination, in addition to the ordinary clinical methods.

Sanatorium Opened.—Miss Mary E. Barr, formerly superintendent of the Margaret Pillsbury Hospital, Concord, N. H., the Eliot Hospital, Manchester, N. H., and the Lawrence General Hospital, has resigned and opened a sanatorium for the treatment of convalescents and those suffering from chronic diseases, in Methuen, Mass.

Antituberculosis League Elects.—At the annual meeting of the Lawrence Antituberculosis League, the following officers were elected: President, Dr. Charles G. Carleton; vice-president, Dr. George B. Sargent; secretary, Dr. J. Forrest Burnham, directors, Drs. W. H. Coon, Frank B. Flanders, Carl H. Eidam and George P. Howe; and medical supervisor, Dr. Alexander L. Siskind.

Damages Awarded.—Dr. Richard F. Daly has received an award of $1,200 in a suit against the Boston Elevated Railroad for injuries received at 9 p. m., Jan. 4, 1906, at the Dudley Street station. The defense claimed that the track was slippery from a constant drizzle, but Dr. Daly proved, by the records of the local U. S. Weather Bureau, that no rain fell that day after 1:10 p. m.

Board of Health Changes.—Burt R. Rickards, director of the bacteriologic laboratory of the board of health, has resigned, to accept the charge of the laboratory of the Ohio State Board of Health, Columbus. His successor will be the present assistant, Dr. Francis H. Slack, who will in turn be succeeded by the present bacteriologist, Dr. Burdett L. Arms. Not a little of the present high efficiency of the laboratory is due to this policy of promotion.

Tuberculosis Camp Report.—The Brookline Tuberculous Camp for Children was open July 2 to September 26 on the grounds of the Board of Health Hospital. The report of the committee in charge shows that of the 23 patients cared for, all improved, and that in 7 cases the disease was arrested. The daily cost was about 55 cents per patient, a total of $740. The town board of health contributed 50 cents for each patient per day, and the rest was secured by private subscriptions.

Personal.—Dr. Henry Ehrlich has resigned as chairman of the board of trustees of the Boston Public Baths.——Dr. Daniel Starch, instructor in experimental psychology in Wellesley College, has been appointed instructor in psychology in the University of Wisconsin.——Dr. Francis J. Kelleher has been appointed instructor in medical jurisprudence in Tufts Medical College.——Dr. William F. McGrath has been elected president, and C. W. Wright, secretary, of the medical and surgical staff of the North Adams Hospital.

District Society Meeting.—At the quarterly meeting of the Essex North District Medical Society, held in Amesbury, October 14, a committee was appointed to present an outline of the position advised by the society to physicians when requested to accept rebates on prescriptions or purchases by druggists. A committee was also appointed to collect and forward to the American Medical Association a list of all advertising doctors, medical companies, medical institutions, cancer cures, locomotor ataxia cures, etc., in the district, for the use of the information department.

Massachusetts Association of Boards of Health.—At the quarterly meeting, October 29, a circular presented by the committee on Fly Nuisance was appointed to be sent throughout the state. The Committee on Milk Legislation was directed to seek the passage of a bill by the next legislature making milk inspectors agents of the boards of health. Prof. C. E. A. Winslow read a paper on the "Conveyance of Bacteria by Sewer Air," telling of experiments made by him for the Master Plumbers Association, which prove conclusively that while bacteria may occasionally be present in sewer air, their actual number is very small, and that the danger from breathing such air is far less than is incurred by the use of the drinking water that is ordinarily at hand.

MICHIGAN.

Society Passes Resolutions.—The Clinton County Medical Society, at its recent meeting, adopted resolutions of regret and sympathy over the death of Dr. Samuel E. Gillam, St. Johns, first president of the society.

Personal.—Dr. Edward Moriarty, Mt. Clemens, sailed for Germany October 22.——Dr. Bertha S. Stuart has been made medical director of the Barbour Gymnasium, Ann Arbor.——Drs. Michael P. Fenelon and William A. Lemire, Escanaba, have been named as physicians to Delta County.——Dr. Max Ballin, Detroit, who recently returned from Europe, and Dr. Walter B. Geikie, Toronto, were guests of honor at a banquet at the Hotel Cadillac, Detroit, October 17.

September Deaths.—During September, there were 3,280 deaths reported to the department of state, equivalent to an annual death rate of 14.7 per 1,000 population. This number is an increase of 188 over the preceding month, and of 398 over September, 1907. Chief among death causes were diarrhea and enteritis, 592; violence, 194; cancer, 144; tuberculosis, 137; typhoid fever, 90; pneumonia, 87; meningitis, 42; diphtheria, 26; whooping cough, 23; influenza, 9; measles, 3; and scarlet fever, 2. As compared with the preceding month a decrease is shown in the deaths from tuberculosis, scarlet fever, measles, whooping-cough, cancer and violence, and an increase is shown in those from typhoid fever, pneumonia, and diarrheal diseases of children.

Dangerous Communicable Diseases.—During September there was a slight increase in the cases of pneumonia reported, as compared with the preceding month; typhoid fever was reported in 164 localities, an increase in 18 localities as compared with the preceding month; diphtheria was much more prevalent than in the preceding month, and slightly more prevalent than the average of the month for recent years. The disease was reported in 55 localities, an increase of 12 over the preceding month. Meningitis was slightly more prevalent than in August; whooping-cough was less prevalent; scarlet fever, while more prevalent, was much less prevalent than the average; measles was much less prevalent; and smallpox, while slightly more prevalent, was much less prevalent than the average for recent years.

Elections.—At the annual meeting of Saginaw County Medical Society, held in Saginaw, the following officers were elected: Dr. Fred W. Edelman, president; Dr. Pearl S. Windham, vice-president; Dr. J. Neil MacLean, secretary-treasurer; Drs. Bert B. Roe, Elmore E. Curtis and William F. English, directors; Dr. William J. O'Reilly, delegate to the state medical society; and Dr. Bert B. Roe, alternate, all of Saginaw.——At the annual meeting of Mecosta-Newaygo Counties Medical Society, held in Big Rapids, Dr. Franklin C. Terrill, Big Rapids, was re-elected president; Dr. James B. Campbell, Stanwood, vice-president; Dr. Donald MacIntyre, Big Rapids, secretary; and Dr. Leavitt S. Griswold, Big Rapids, delegate to the state medical society.——Dr. Harvey Hoffman was elected president; Dr. Arthur W. Abbott, vice-president; and Dr. E. George Gray, secretary-treasurer of the Mason County Medical Society, at its annual meeting in Ludington recently.——Huron County Medical Society, at its annual meeting, held in Bad Axe, re-elected Dr. Alexander M. Francis, Port Austin, president; Dr. Mathew C. McDonnell, Bad Axe, vice-president; Dr. Daniel Conboy, Bad Axe, secretary-treasurer; Dr. David J. Lackie, Grindstone City, delegate to the state medical society; and Dr. Bernhard Friedlaender, Sebewaing, alternate.

MINNESOTA.

College Building Burned.—Anatomy Hall, formerly the medical building of the University of Minnesota, was destroyed by fire October 5, and thirty cadavers were burned. The loss is about $16,000.

Plans for New Hospital.—The state architect has completed plans for the new wing in the St. Peter State Hospital for the Dangerous Insane. The plans call for a two-story brick and stone structure to cost $60,000, capable of accommodating 60 patients.

Personal.—Dr. Berndt M. Behrens, Minneapolis, was seized with cerebral hemorrhage, while in attendance at the Hennepin County Medical Society, October 19, and is in a critical condition.——Dr. William A. Jones, Minneapolis, has been elected president of the State Board of Health, vice Dr. James B. McGaughey, Winona, deceased, and Dr. Christopher Graham, Rochester, has been made a member of the executive committee.

MISSOURI.

Illegal Practitioner Fined.—Mrs. Magdalen Wunderlich, St. Louis, is said to have been fined $200 in the Court of Criminal Correction after conviction on the charge of practicing medicine without a license.

Hospital Opened.—The new general hospital in Kansas City was opened for public inspection October 7. The hospital will accommodate 400 patients and is thoroughly equipped. Dr. J. Park Neal has been appointed house surgeon of the hospital.

Election.—At the annual meeting of Caldwell County Medical Society, held at Braymer, October 14, the following officers were elected: President, Dr. Robert L. Mount, Polo; vice-president, Dr. William H. Aplin, Hamilton; secretary-treasurer, Dr. Tinsley Brown, Hamilton; censors, Drs. William T. Lindley, Hamilton, James O. Waterman, Breckenridge, and James O. Wilkerson, Cowgill, and delegate to the state society, Dr. Corydon O. Dewey, Breckenridge.

Personal.—Dr. Nathaniel M. Semple has been appointed editor of the *Bulletin of the St. Louis Medical Society*, vice Dr. Edmund A. Babler, resigned.——Dr. William E. Leighton has been appointed assistant surgeon of the St. Louis Skin and Cancer Hospital.——Dr. E. Lee Dorsett has been appointed assistant gynecologist to the Deaconess Hospital, St. Louis.——Dr. Frank J. Lutz, St. Louis, has returned from Europe.——A banquet was given at Lebanon, October 13, in honor of Dr. James McComb, on the fiftieth anniversary of his practice in Laclede County.

Visitors from Abroad.—Prof. Dr. Wilhelm von Leube of Würzburg held a clinic at the Washington University Hospital, October 21, and was entertained at a banquet by the Verein Deutscher Ærzte and the faculty of the medical department of Washington University, October 19.——Dr. Clemens von Pirquet, Vienna, addressed a joint meeting of the Medical Society of the City Hospital Alumni, and the St. Louis Medical Society, October 17, on "Cutaneous Reaction of Tuberculins."——Prof. James G. Mumford of Harvard University, was the guest of the St. Louis Medical Society, October 29, and delivered an address on "Studies in Cancer."

NEW YORK.

Colleges Open.—The College of Medicine of the University of Syracuse opened its annual session October 6.——The formal opening of University and Bellevue Hospital Medical College, New York City, took place September 30, at the Carnegie Medical Laboratory. Addresses were made by the chancellor and Dr. Egbert Le Fevre, dean of the faculty of the medical school.

Academy in New Quarters.—On October 21, the Elmira Academy of Medicine celebrated the opening of its new rooms in the Federation Building, Church and State Streets. About 125 physicians were present, and papers were read by Drs. Henry C. Buswell, Buffalo, Henry L. K. Shaw, Albany, and Edward B. Angell, Rochester. It is intended to establish a medical library and reading room, and to make the new home of the academy a center for the various medical interests of the city.

Hospital Notes.—The new Children's Hospital, Buffalo, built and equipped by Mr. and Mrs. Charles Pardee, at a cost of $10,000, was opened last week for the reception of patients.——The Day Camp for Tuberculosis has been closed for the season. The work accomplished was encouraging, and the camp will be continued on a larger scale next year. There is an urgent need for a large, well-equipped tuberculosis hospital in Buffalo, as the consumptive pavilion in the Erie County Hospital and the State Tuberculosis Sanatorium at Ray Brook are already overfilled.

Necessity for Municipal Hospital.—At a public meeting, held recently in Buffalo, representatives of the Buffalo Academy of Medicine and the Erie County Medical Society, made urgent appeals for a modern, well-built municipal hospital for infectious diseases. A resolution was adopted authorizing the corporation counsel to draft a bill to the legislature allowing the city to bond itself for this purpose. In October last 326 cases of scarlet fever were reported in the city, and this shows the necessity for such an institution, as the spread of the disease has undoubtedly been due to lack of an isolation hospital.

During October there were reported 138 cases of diphtheria or 104 more than for the corresponding month of last year.

Personal.—Dr. John Parmenter has resigned as associate surgeon of the Buffalo General Hospital and has been appointed consulting surgeon. Dr. Frederick J. Parmenter has been appointed assistant surgeon and Dr. Edward R. McGuire associate surgeon of the hospital.——Dr. George F. Cott, Buffalo, has returned from Europe.——Dr. and Mrs. Edgar T. Shields, Buffalo, have started for their post of duty in East China, near the border of Thibet.——Dr. John H. R. Barry, Long Island City, has been appointed superintendent of the health department of the Borough of Queens.——Dr. Lewis J. Davis, Watertown, is reported to be in a critical condition from skull fracture, due to a fall down a flight of stairs, October 5.

Patchogue Smallpox Mild.—Dr. Frank Overton, health officer of Patchogue, states that the item in The Journal, October 31, relating to smallpox in that city, was exaggerated. He says that there is an epidemic of smallpox of extremely mild type, so mild that cases are often not recognized by physicians. No deaths have occurred, and nearly all of the twenty or more houses which were quarantined are now cleaned and fumigated, and by this time, he says, the disease will be at an end. From the start the authorities had the disease under control, and practically every one in the town has been vaccinated. He states that so far from criticizing the health authorities, the State Department of Health has commended their work. He incloses a circular which he has issued on the "Care of Vaccination," which details the sequelæ of vaccination and gives directions as to after-treatment.

District Society Meetings.—At the second annual meeting of the First District Branch of the state medical society, held October 21, Dr. Charles E. Townsend, Newburgh, was elected president; Dr. Theodore D. Mills, Middletown, secretary; and Dr. Newton F. Curtis, White Plains, treasurer (re-elected).——The second annual meeting of the Third District Branch of the state medical society was held in Troy October 27. Dr. J. L. Archambault, Cohoes, was elected president; Dr. Andrew MacFarlane, Albany, vice-president; Dr. Henry L. K. Shaw, Albany, secretary; and Dr. Sherwood V. Whitbeck, Hudson, treasurer. Hudson was selected as the place of the next annual meeting. A feature of the meeting was an address by Dr. Clement von Pirquet, Vienna, on "Some New Aspects of Tuberculosis."——The second annual meeting of the Fifth District Branch of the state medical society was held in Utica October 18, and Dr. Gilbert D. Gregor, Watertown, was elected president; Dr. Frank E. Fox, Fulton, vice-president; Dr. William D. Garlock, Little Falls, secretary; and Dr. F. Edward Jones, Beaver Falls, treasurer. Watertown was selected as the next place of meeting.——At the annual meeting of the Eighth District Branch of the state medical society, held in Buffalo, October 27, the following officers were elected: President, Dr. M. P. Conway, Auburn; vice-presidents, Drs. Frank H. Stephenson, Syracuse, and Edward W. Mulligan, Rochester; secretary, Dr. Clarence A. Greenleaf, Hornell (re-elected); and treasurer, Dr. Charles O. Boswell, Rochester. Auburn was selected as the place of meeting for 1909.

New York City.

Dr. Armstrong Leaves Bellevue.—The trustees of Bellevue and allied hospitals have accepted the resignation of Dr. S. T. Armstrong, medical superintendent.

Central Park Dairy.—Pure clean milk has been the demand of health officers and others who are concerned with the welfare of the people, and the New York *Herald's* proposal for a dairy in Central Park is approved of. A model stable is suggested. The idea is commended by many.

New Bellevue Hospital Building Opened.—The new building has been turned over to the use of patients. The number of patients in the hospital now is 855, and there is room for 325 more; these vacancies will be filled shortly by transferring patients from the old to the new building. The new building is at the southeast end of the grounds, and another new building is almost completed at the northeast end of the grounds.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 31, 431 cases of tuberculosis, with 134 deaths; 321 cases of diphtheria, with 21 deaths; 145 cases of measles, with 3 deaths; 162 cases of scarlet fever, with 6 deaths; 85 cases of typhoid fever, with 19 deaths; 26 cases of whooping cough, with 4 deaths; 9 cases of cerebrospinal meningitis, with 5 deaths; and 81 cases of varicella, a total of 1,260 cases and 192 deaths.

OHIO.

Laboratory to be Dedicated.—The H. K. Cushing Laboratory of Experimental Medicine at Western Reserve University, Cleveland, is to be dedicated November 20. The address of the occasion will be delivered by Dr. William Henry Welch of Johns Hopkins University.

The Eichberg Fund.—Dr. Nathaniel P. Dandridge, chairman of the committee of the Cincinnati Academy of Medicine, appointed to secure the fund of $100,000 to establish a chair of physiology in the University Medical College for a memorial to Dr. Joseph Eichberg, announces that $20,000 already has been subscribed.

Personal.—Dr. Robert Ingram, Cincinnati, has returned after five months abroad.——Dr. Louis M. Early, Columbus, has retired from practice.——Dr. Jacob A. Kimmell, Findlay, has been elected president of the Association of Big Four Railway Surgeons.——Dr. George L. Ramsey, Powhatan, lost his home and office by fire recently.——Dr. David N. Kinsman, Columbus, who has been seriously ill with heart trouble and bronchitis, is reported to have passed the critical stage of his illness.

Society Meetings.—At the annual meeting of the Tenth District Medical Society, held in Circleville, October 10, the following officers were elected: President, Dr. Dudley V. Courtright, Circleville; vice-presidents, Drs. Lutrelle M. Henderson, Marysville, Roy L. Pierce, Mt. Gilead, and Albert E. Loyer, New Washington; and secretary-treasurer, Dr. George O. Berry, Lancaster.——At the annual meeting and banquet of the Starling Medical College Alumni Association of the Miami Valley, held in Dayton, October 28, Dr. Clifton L. Patterson was elected president; Dr. Frank R. Henry, vice-president; Dr. John W. Millette, secretary; Dr. J. B. Sampsell, treasurer; and Drs. Gustave A. Hochwalt, William E. Allaman and G. W. Richie, trustees.

Hospital Notes.—The board of physicians of Bethesda Hospital, Zanesville, at the annual meeting October 20, elected Dr. Elias C. [illegible] [illegible]nt; Dr. Simeon Kelly, vice-president; Dr. [illegible], secretary, and Dr. John B. McBride, censor.——The Guy Buttles Case Memorial wing of St. Luke's Hospital, Cleveland, erected at a cost of $30,000, was dedicated October 18, with formal ceremony.——The Children's Hospital, Columbus, by buying a corner lot, has filled out its holdings in Miller Avenue, from Fair Avenue to Oak Street.——At a meeting of the board of managers and trustees of the Protestant Episcopal Free Hospital for Children, Cincinnati, the bequest of $20,000 made by the late John Emery to the institution was added to the endowment fund, the interest being used toward defraying the running expenses.

GENERAL.

Marine-Hospital Service Examination.—At the Bureau of Public Health and Marine-Hospital Service, Washington, D. C., Jan. 11, 1909, at 10 a. m., candidates will be examined for assistant surgeons. Candidates must be between 22 and 30 years of age; graduates of reputable medical colleges; and must furnish testimony as to their moral character. The examination is physical, oral, written and clinical. On appointment, officers, as a rule, are first assigned to duty at a hospital in one of the large cities. After four years, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeons. Promotion to grade of surgeon is made according to seniority, and after due examination. Assistant surgeons receive $1,600, passed assistant surgeons, $2,000, and surgeons, $2,500 a year, and in addition longevity pay of 10 per cent. for each five years' service for twenty years. The tenure of office is permanent. Officers are further entitled to quarters for themselves and families or commutation at the rate of $30, $40 or $50 a month when at stations where quarters can not be provided. For information or invitation to appear before the board of examiners, application should be made the Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C.

Society Meetings.—At the first annual meeting of the Railway Surgeons Association of the Pennsylvania Lines East of Pittsburg, held in Philadelphia, November 2, under the presidency of Dr. Joseph C. E. Egbert, Wayne, Pa., the following officers were elected: President, Dr. William H. Cameron, Pittsburg; vice-presidents, Drs. Laban T. Bremerman, Downington, Pa., and Archibald C. Harrison, Baltimore; secretary, Dr. Amos W. Colcord, Clairton, Pa.; treasurer, Dr. Eugene H. James, Harrisburg (re-elected); and delegate to the Association of Surgeons of the Pennsylvania Lines West of Pittsburg, Dr. John F. Davis, Oil City. The next meeting will be held at Harrisburg in October, 1909.——At the seventh annual convention of the Association of Seaboard Air Line Railway Surgeons, held in Columbia S C, October 27 and 28, the following officers were elected President, Dr William Weston Columbia, S C vice presidents Drs Jarvis G Dean, Dawson Ga J W Smith Branchville, Va, and Richard T. Walker Cedar Keys Fla and secretary treasurer, Dr Jarrett W Palmer Ailey Ga ——The Æsculapian Society of the Wabash Valley, at its annual meeting in Paris, Ill October 29, elected the following officers· President, Dr Joseph H Weinstein Terre Haute, Ind, vice president, Dr Thomas O Freeman, Mattoon Ill· secretary-treasurer, Dr. Herbert N Rafferty, Robinson, Ill, and directors Drs Finis E Bell Mattoon, Ill Elmer B Cooley, Danville, Ill: Frank Dunham, Robinson Ill William H Ten Broeck Paris Ill and Myron A Boor Terre Haute Ind The next meeting will be held at Robinson, Ill

FOREIGN.

Retirement of Zaufal—Prof. E Zaufal retires this year from the chair of otology at the German University at Prague, the present privat docent, O Piffl, is to succeed him

Two Hundredth Anniversary of the Birth of Albrecht von Haller—On October 16 Berne in Switzerland celebrated this anniversary in memory of the 'last *international learned* and teaching biologist" He obtained his medical degree under Boerhaave at Leyden and then accepted the chair of anatomy and surgery at Gottingen offered him by the King of England who had founded the Gottingen university not long before Haller wrote and taught in Latin and was thus at home in learned circles everywhere in England, Germany France and elsewhere but he returned later to Berne where he died in 1777 Some of his correspondence is preserved there, including 13 000 letters from 1,200 different correspondents His works on physiology and various medical subjects were numerous and showed great research—his Methodus Studii Medici" containing references to 4 000 works and yet there was no *Index Medicus* in those days' The last issues of some of our European exchanges contained illustrated historical sketches of this early poet anatomist and biologist Professor Waldeyer of Berlin delivered a historical address at the anniversary celebration

LONDON LETTER.

(From Our Regular Correspondent)

LONDON, *Oct* 31, 1908

The Destruction of Rats

Lord Carrington minister of agriculture, received a deputation consisting of Sir James Crichton Browne Mr Theobald (vice president of the Agricultural College), Mr Boelter (Incorporated Society for the Destruction of Vermin), and others urging the importance of the extermination of rats Mr Boelter said that the amount of damage done by rats in Great Britain exceeded $75,000,000 annually This figure was arrived at by allowing only one rat to each acre of land under cultivation and assuming that it did damage only to the extent of half a cent a day Over $1,250,000 was expended every year on rat poisons, or about ten times the amount required to carry out the work of complete extermination on systematic lines The deputation laid before Lord Carrington the draft of an act which they would like to see passed This leaves it to the local authority to take steps for the destruction of rats, and if they fail the local government board shall do the work, the expenditure to be refunded by the local authority. Inspectors are empowered to enter without warrant any suspected area (dwelling house, outhouse, factory, warehouse, dock wharf, railway station stable sewer field, garden, and stacks of wood, hay and corn For obstructing an officer the fine would be about $25. It is expected that the Board of Agriculture will make known its decision in about a month

New Regulations for the Prevention of Grinder's Phthisis.

New regulations for the prevention of grinder's phthisis, from which the mortality is still considerable, have been issued by the home secretary to whom they have been recommended by representatives of both the employers and employés engaged in this industry The regulations provide that in the dry grinding of metal and in dusty finishing processes adequate means be taken for intercepting the dust given off These means include efficient hoods, ducts, exhaust draughts and arrangements for the disposal of dust The exhaust can be produced by a fan or by any other means equally efficient Recent experiments indicate that some assistance in this direction can be obtained by utilizing the draught from the revolving grindstone or wheel itself A second regulation deals with the racing of grindstones, which must not be carried on without effectual means for preventing the escape of dust into the room Two methods are suggested· (1) Racing under a cover with exhaust draught, and (2) wet racing, that is directing a stream of water on the point of contact of the racing tool with the grindstone The former is used in Germany, the latter has been experimentally tried in Sheffield

Tax on Nostrums

In the British Isles the sale of so called "patent" or proprietary medicines is entirely uncontrolled by the government, except that it levies a tax on every article sold, and requires that it bear a stamp of the value of the tax This practice has the unfortunate consequence that when ignorant people see this revenue stamp they are prone to think that the article is in some way sanctioned by the government and therefore that the usually fictitious claims made by the exploiters are true There are some signs, however, that this supine attitude of the government will be abandoned As shown in recent letters to THE JOURNAL the authorities have begun to prosecute quacks for obtaining money by fraudulent pretences of cure and no reason can be given why the same treatment should not be applied to the nostrum vendor In the case of the exploiters of tuberculozyne" the coroner's jury suggested a prosecution at the inquest held on the boy who died from tuberculosis while taking it (THE JOURNAL, Sept. 26, 1908, p 1093) but so far nothing appears to have been done A nostrum vendor has evaded the revenue authorities rather ingeniously W Migge of 10 Eastcheap, was summoned for *selling without a revenue stamp a box containing a preparation* to be used as medicine described as "Antineurasthin' or "Dr Hartmann's Brain and Nerve Food" A year ago the vendor wrote to the board of inland revenue asking whether the preparation had to be stamped or not The board after *considerable correspondence, informed him that it should be* The defendant took a contrary view, holding that his stuff was a food, and these proceedings followed The case was dismissed

Postgraduate Teaching in London

The opportunities for postgraduate study have been much increased in London in recent years Not long ago in spite of the large number of hospitals and medical schools *no organized* postgraduate teaching existed in this city The teaching work of the great hospitals was organized simply for the instruction of students pursuing their medical course Practitioners resident in London or foreign physicians who desired to attend hospital practice found themselves out of place At the large general hospitals the teaching was designed only for the instruction of the students and at the special hospitals there was no organized teaching At the same time that London was practically ignoring medical graduates whether home or foreign the other European capitals—Berlin Vienna and Paris—were doing everything possible to attract them by courses specially designed for their instruction The advances of medicine in recent years which have rendered postgraduate instruction necessary for all who desire to keep up to date at last broke down the conservatism which confined the vast teaching opportunities of London to students One of the first attempts to remedy this condition was made by the London Postgraduate Association which was founded in 1898 On payment of a fee of $50 for three months or $75 for six months a physician is admitted to the practice of the following general hospitals Charing Cross, Guy's, King's College, St Mary's St Thomas's, University College and Westminster, and to the following special hospitals The Brompton Hospital for Consumption and Diseases of the Chest the Hospital for Sick Children Great Ormond St, the London School of Tropical Medicine the National Hospital for the Paralyzed and Epileptic Queen Square and the Royal London Ophthalmic Hospital He is also entitled to attend postgraduate classes which are held from time to time in these hospitals But as stated above the teaching at the general hospitals mentioned is designed almost entirely for the instruction of students. An increasing number of institutions devoted solely to the instruction of graduates are being formed The most important is the West London Postgraduate College which was started at the West London Hospital in 1895 Instruction is given to physicians in every possible way—in the wards and out patient departments and in lectures The hospital is largely attended by the medical officers of the army and navy, for whom postgraduate courses are now compulsory The fee for the hospital practice for one month is $25, for three months $40 and for six months $60 Extra fees are charged for special classes in operative surgery, bacteriology, anesthetics and tropical medicine More recently founded and on similar lines are the North-East London Postgraduate College (in connection with the Tottenham Hospital) and the London School of Clinical Medicine (in connection with the Dreadnaught Hospital, Greenwich). There is also the Medical Graduates College and Polyclinic—a unique institution which was founded about 10 years ago mainly on the initiative of Mr. Jonathan Hutchinson, who has presented to it his clinical museum. For the small fee of $5 annually physicians have the privilege of attending clinics held daily at 4 p. m and lectures which are given at 5:15 p. m. by the most eminent men in London and the provinces. Special classes in clinical microscopy, practical gynecology, *x*-ray work, applied anatomy, practical otology, laryngology and ophthalmology are also held. The fee for each of these is $5, except gynecology, for which the fee is $10. At the clinics the cases are almost all selected and during the year many rare forms of disease are shown. The drawback to this institution is that no hospital is attached to it, therefore cases in which the patients are confined to bed can not be shown. It is largely patronized by physicians living in or near London and has a membership of 1,000. Of the special hospitals which are devoted to postgraduate teaching, the most important only will be mentioned. The principal eye hospital is the Royal London Ophthalmic (formerly known as Moorfields). The teaching is excellent and a large number of the ophthalmic surgeons of Great Britain and her colonies are trained here. The National Hospital for the Paralyzed and Epileptics is by far the most important hospital devoted to nervous diseases, and has a remarkably brilliant staff, which includes almost all the great names in English neurology. Hughlings Jackson, " the father of neurology," Buzzard, Bastain and Gowers are now on the consulting staff and have been succeeded by men equally eminent—Horsley, Ferrier, Risien, Russell, Omerod and Beevor. The London School of Tropical Medicine is connected with the Seaman's Branch Hospital at the docks. Here physicians going abroad can study cases of tropical disease in patients who arrive in this country from all parts of the world. The school buildings include laboratories, a museum and a library. Classes are held in helminthology, protozoölogy and entomology.

PARIS LETTER.

(From Our Special Correspondent.)

Paris, France, Oct. 24, 1908.

The Boldness of Charlatanry.

A grocer who issued a circular proclaiming the miraculous virtues of a certain table water called *La Désirée*, "a refreshing laxative and aid to digestion, drawn from a depth of over 100 feet, absolutely bacteria-free, approved by the government," has just been sentenced to six months in prison and fined $100 for fraud. The grocer had in the first place simply drawn this water from his well; then, the well water having become muddy, he used the water of the Seine. Unfortunately, other frauds, much more dangerous for the public health, remain unpunished. The walls of Paris are plastered with the posters of a self-styled "Institute of International Medical Therapeutics," which, under deceptive titles, such as "The Great French Clinics," "Public Health: Medical Service," etc., promise instant cure of the most obstinate diseases. These posters do not even bear the stamp which in France, according to law, all posters, except electoral notices, must bear. At first the culprits timidly put up cards; then, profiting by impunity, they became bolder and gradually increased the size and number of their posters, and within a few days, they have put a red cross at the top, which will still further influence public credulity. The matter has been taken up by Dr. Salmon, a member of the city council.

A Franco-Danish Mission for the Study of Leprosy.

Professor Ehlers of Copenhagen is now in Paris to obtain (probably from the Pasteur Institute or the laboratory of parasitology of Prof. Raphael Blanchard) French collaborators in organizing an expedition to Ste. Croix in the Danish Antilles, where there are two great leper colonies, in order there to study experimentally the rôle of blood-sucking insects, especially bedbugs and fleas, in the propagation of leprosy. At the invitation of the Colombian government, the expedition will also go to Colombia, where there are many lepers.

Yellow Fever at St. Nazaire.

There have been fresh cases of yellow fever at St. Nazaire. The total number is 12, with 6 deaths. Officially, the epidemic has been stamped out since October 19; but the disease has made almost as many victims at St. Nazaire in a few days as it made in Martinique in three months. It may be true that yellow fever can not perpetuate itself in France, but that is no reason for neglecting precautions against it, as has been done. The director of the sanitary service at St. Nazaire omitted to inspect ships himself, even in serious cases. Thus, he sent a mere agent of the sanitary service, who was not even a physician, to inspect a ship from the Baltic which had cholera on board, and imprudently admitted it to free pratique. He likewise sent a subordinate to inspect the packet *La France*, which brought the yellow fever to St. Nazaire. This unscrupulous director has just lost his position; and an action has been begun against the captain and physician of *La France*.

Official Inquiry Into Yellow Fever.

The government commission on hygiene has sent a delegation to St. Nazaire to study on the spot the conditions which have produced yellow fever there. The inquiry has shown that a revision of the sanitary regulations is necessary. At present a vessel coming from an infected port can obtain free pratique if the passage has consumed not less than nine days. The delegation is agreed that, since the mosquitoes can live longer, the period of detention must be extended to fourteen days. It seems necessary, moreover, to improve the methods of destroying the mosquitoes during the passage. For the hold and the cargo, this is relatively easy by the use of sulphurous acid. For the cabins, it is necessary to use one of the formalin products. The delegation believes that it is also indispensable to extend the limited powers of the physicians of the sanitary corps; that sanitary powers should extend on board of the vessels; that physicians should carry out sanitary measures; and that, instead of relying on a private company to do disinfection, the sanitary service should be provided with the facilities for performing disinfection itself.

Homage to Professor Laveran.

Almost the whole medical profession of Algiers has united in placing in the military hospital of Constantine, on the spot which served Laveran for a laboratory, and where he accomplished his memorable works, a medallion commemorating the discovery of the parasite of malaria in 1880, which discovery, together with Laveran's other works, won him the Nobel prize in medicine last year. Another commemorative medallion has been placed in the hall of honor of the hospital by the military physicians.

BERLIN LETTER.

(From Our Regular Correspondent.)

Berlin, *Oct. 22, 1908.*

Death of Althoff.

The former prime minister, *Friedrich Althoff*, died October 20, aged 69. We have repeatedly had occasion to speak of him in these letters, and always with the highest praise for what he accomplished in the field of general, social and humanitarian effort. In the twenty-five years during which Friedrich Althoff belonged to the Prussian state department of education, he was the most prominent personage of this department, not excepting the minister who was his chief. With his remarkable talent for organization, his extensive knowledge, his inflexible energy, his profound knowledge of men and his skill in diplomacy, he accomplished important results for the medical profession and for the educational interests of Prussia, and no progress in this line in the last two decades has been achieved without his aid, and generally under his initiative and leadership. The campaign against tuberculosis, against cancer, and against infant mortality, the postgraduate instruction of physicians and medical education, all owe to him an extraordinary debt. The reconstruction of the Charité, which since its completion constitutes for Berlin one of the largest and best organized hospitals in the world, was really accomplished by his energy. Like most great men he had the faults of his virtues. He was feared on account of his frequent abruptness and lack of regard for others. Personal feeling for others was often enough obscured by his interest in the matter under consideration, and many a learned man has fallen a victim to this trait of his character. The position in which he was placed in which he had plenty of opportunity to learn the weaknesses of men, made him to a certain extent a cynic. It is not, therefore, to be wondered at that Althoff had many enemies, and that the saying applies to him: "The picture of his character in history varies because confused by the hatred and favor of partisans" (*Von der Parteien Hass und Gunst verwirrt, schwankt sein Charakterbild in der Geschichte*). His name will never be forgotten in the history of education and of the medical profession in Prussia.

Personal News.

Professor Naunyn, the highly esteemed clinician, until recently at Strasburg, had to undergo lately an operation for a complaint which gave rise to serious anxiety. It was feared that there was a malignant tumor of the cecum. At the operation, which was done by Professor von Eiselsberg in Vienna, it was fortunately demonstrated that there was merely a benign cystic tumor.

The director of the Düsseldorf Academy for Practical Medicine, Privy Counselor Professor Witzel, has resigned his position. The results which the Düsseldorf academy has so far accomplished are surprisingly small, and the blame is laid chiefly at the door of the management. As, moreover, differences between Witzel and the other professors of the academy have often arisen, Witzel has decided to sever his connection with the academy.

The noted physiologist at the university at Königsberg, Professor Hermann, and the renowned director of the pharmacologic institute of Strasburg, Professor Schmiedeberg, each celebrated recently their seventieth birthday, and consequently will have to retire from their positions before long. It is to be hoped that it will be possible to find suitable successors for these men. Dr. F. Bezold, professor of otology at the university of Munich, well known for his contributions to his specialty, died there October 6.

Training of Pharmacists for Chemico-Physiologic, Microscopic and Bacteriologic Investigations.

In Germany the pharmacists have very frequently installed laboratories in which examination of urine, sputum, etc., is done for physicians and even for patients. For a number of years the sharp competition between these laboratories and the institutes for medical diagnosis which are conducted by physicians has increased, and the pharmacists are bestirring themselves for this reason to make their laboratories more efficient. In accordance with this the pharmaceutical council for the province of Berlin (the pharmacists have also in Prussia an official national professional representative organization like that of the physicians), passed a resolution in March to propose to the minister of education to make compulsory the study of chemical, physiologic, microscopic and bacteriologic examinations, so far as needed to assist the physician in recognition of disease, and require examination in them in the state examination for pharmacists. From the medical standpoint, such a request must be opposed, and this was done at the time by the *Deutsche medicinische Wochenschrift*. It was there shown that the days in which most physicians did not possess sufficient knowledge for such examinations have fortunately passed, and that therefore the old custom of allowing the apothecary to make uranalyses and similar examinations, had also been finally done away with. It was also shown that the pharmacist is a layman who can not utilize his material according to the requirements of medical practice, because he lacks a knowledge of conditions in the whole field of medicine. The department of education took the same view, for in its answer to the request of the pharmacists the position was taken that a necessity for their demand could not be recognized. It was stated: "The proposed training does not belong to that which is necessary for the calling of apothecary. It must for this reason be left for the apothecaries themselves—so far as it seems necessary to them—to secure the knowledge and skill in question." Physicians will surely be grateful to the minister for the stand he has taken in this matter.

The Campaign Against Foot-and-Mouth Disease.

For some years the distinguished Greifswald hygieniest, Professor Löffler, one of the oldest pupils of Robert Koch, has been attempting, at the request of the minister of agriculture, to find a serum to combat foot-and-mouth disease in cattle. Löffler had reached results that seemed to promise well, but his serum has as yet no permanent success to record. During his research an unfortunate mishap occurred to this scientist. The foot-and-mouth disease spread from the animals employed in his investigations to the healthy animals of the neighboring farms, and their owners suffered considerable loss. In consequence of this they made complaints for damages against Profesor Löffler, and suits have been begun. Should the trials end with an unfavorable verdict against Löffler, the scientist would be put to considerable expense. On account of his circumstance his investigations have been at a standstill for two years. Lately they are said to have been taken up again at the request of the minister of agriculture, and in order to avoid another undesirable experience of the kind, they are to be conducted at an institute on an island off the coast, so that all risk of injury to the environment may be excluded. In this institute the serum discovered by Löffler is to be further tried and manufactured.

Cholera in Russia.

Most other European countries as well as Germany have taken extensive measures to protect themselves against the invasion of cholera from Russia. Especially the department of health of Switzerland, in consideration of the fact that at the beginning of the winter semester considerably more than 2,000 Russian students return from their native land to the Swiss universities, has urged the cantonal sanitary authorities to increased vigilance with regard to the introduction of cholera. An order has been issued by the Prussian department of education that sanitary supervision of navigation and river commerce shall be introduced on the Russian boundary and that the train crews on trains coming from Russia shall be detained for the observation of the condition of the health of the passengers, and that persons traveling from Russia to Germany shall be required to report to the police within twenty four hours after their arrival. However, travelers coming from Russia are not subject to quarantine.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, Oct. 11, 1908.

The Third International Congress on the Care of the Insane.

This congress met under the auspices of the Psychiatric and Neurologic Society of Vienna, with Professor Obersteiner, the president of the society, in the chair. The interest taken in it was shown by the fact that 109 official delegates and representatives were present from Germany, Hungary, France, Great Britain, Holland, Spain, Italy, and other countries. There were more than 500 active members of the congress. One of its first acts was to elect honorary presidents for the consecutive days. Sir George O'Farrel of England, Professor Dubret of France, Professor Tamburini of Italy, and Professor Moeli of Germany were elected, and also chosen to act, together with the president, Professor Obersteiner, as a deputation to represent the congress at the unveiling, on the same day, of a monument to Professor von Krafft-Ebing, whose work on "Sexual Psychopathology" made his name known all over the world.

Many interesting papers were read, some of which I shall report briefly. It would appear that, in all countries, the care of the insane has made satisfactory progress within the last twenty years. Several papers afforded an interesting opportunity to compare the methods in use in Germany, Italy, Hungary, etc. The necessity for dealing with the insane as humanely and benevolently as possible has been recognized everywhere.

THE GRADUAL ABOLITION OF RESTRAINT.

Dr. Bresler's paper shows how the old-fashioned methods of restraining maniacs in solitary cells and strait-jackets have been done away with in all the larger asylums in Germany in proportion as the nursing staff has received better training. It has been recognized that, in order to be improved by his stay in an asylum, a patient must be cared for by competent nurses, and that therefore these latter must be well trained, and, if possible, be taken from the better classes.

CARE OF THE DANGEROUS INSANE.

Dr. van Deventer of Amsterdam read a paper on the care of the dangerous and criminal insane. He points out that there are two objects to be attained: Either the dangerous man must be restrained from doing harm, or he must be made a useful member of ordinary society. Asocial or anti-social patients ought not to be allowed to mingle with the other inmates of an asylum. Dr. van Deventer thinks that fully 60 per cent. of the "chronic" inmates of prisons are really insane, and therefore are not fit for prisons. They ought to be housed in institutions where appropriate treatment (good feeding, systematic work, suggestion, and training in self-restraint and the use of the will) might transform them into useful citizens. Young persons with criminal tendencies or inheritance ought to be reared and educated in special homes, for the influence of environment is enormous, and the development of criminal traits can be arrested or promoted by the events of early life.

FAMILY CARE OF THE INSANE.

The subject of family care of the insane, a mode of treatment which has been exciting especial attention of late, was dealt with in the papers of Dr. Mathies of Berlin, Professor Moeli, Dr. Konrad of Buda-Pesth, and Professor Ferrari of Italy. As a rule, the results obtained are very good, and the burden on the budget of the asylum not heavier than if the patient had remained in the institution. Thirty to 35 marks (7.50 to $9) are paid monthly to the care-taking family for each patient cared for. Meanwhile, the beds of the asylum are free for patients with graver maladies. Over 30 per cent. of patients under such family care are able to resume their ordinary work after twelve months, and 41 per cent. after two years. The care-taker must bring up the patients once every four weeks for inspection and directions, and a staff of traveling inspectors looks after the welfare of the patients.

THE NURSING OF THE INSANE.

A paper of great interest for German readers was that by Dr. Scholz on "The Nursing Staff." In German-speaking countries only the lowest classes take up the calling of nursing. Dr. Scholz recommends improvement of pay and offers of other inducements to persons of the better classes to take up this important vocation. The care of the insane requires a delicate and tactful understanding of the patient's psychical condition, which is necessarily lacking in most of the present male and female nurses.

INSANITY AND INSURANCE.

The paper of Director Kögler appeals not only to physicians, but also to the general public. He spoke on "Insanity and Health Insurance." Lately the courts have uniformly ruled that insanity was the equivalent of total disability, and therefore entitled the holder of a health insurance policy to the full pension. Since then, the insurance companies have given special attention to insanity, and the figures on the subject are very interesting. Thus, in 27 out of every 1,000 cases of incapacity from disease, insanity was responsible. A remarkably high percentage of insane was observed among domestic servants. Of 1,000 insane insured persons, 57 were domestics, 40 industrial and agricultural laborers, 44 business men (clerks and shopkeepers) and 23 belonged to the liberal professions (law and medicine).

THE PSYCHIATRIC EXPERT.

The legal position of the psychiatric physician, especially from a forensic point of view, was discussed by Drs. Fischer, Stransky and Sölder. They agreed that the psychiatric expert ought to be a teacher rather than an authority, as he must influence a jury unaccustomed to a psychologic train of considerations. The cases on the borderline between normal and pathological conditions especially must be explained to a jury, in order to prevent cruel mistakes. Thus, the consequences of cerebral hemorrhage, incipient brain degeneration, and sexual perversions, not to mention neurotic conditions, often constitute etiologic factors in criminal proceedings.

INSANITY IN THE ARMY.

A paper received with the utmost interest was that by Dr. Drastich, staff surgeon in the Austrian army, on "The Care of Insane Soldiers in Wartime." The strain entailed by modern warfare on the nerves and the brain of the soldier often causes a complete breakdown before the enemy. In the Russo-Japanese war, where Dr. Drastich was with the medical corps of the Red Cross in the Russian ranks, 2,000 soldiers had to be sent home, as not only their own condition, but their demoralizing effect on the others was very troublesome. The military surgeon should be careful to remove from the rank and file during time of peace all soldiers with impaired psychic reaction. Sufficient training of the military surgeon in diagnosis of psychic diseases, and an efficient organization, in wartime, for removing insane patients to the hospital are essential to ensure freedom for the army from this dangerous incumbrance.

THE NEXT CONGRESS.

The next congress will be held in Berlin in the autumn of 1910. An international organizing committee, composed of representatives of all countries, has been elected to make the necessary arrangements. With this transaction the official business of the congress came to an end. Visits to the splendid Steinhof lunatic asylum in Vienna, said to be the best in Europe, to the clinic of von Eiselsberg, where two trepanations for cerebral tumor were performed, to the psychiatric clinic, and to several other points of interest, were arranged. The efforts of the Vienna committee were much appreciated by the guests.

Pharmacology

"AN APPEAL FOR A SQUARE DEAL."

Further Misrepresentations and Evasions on the Part of the Abbott Alkaloidal Company.

Astute but unprincipled demagogues have long recognized the psychic value of raising the bogey of "persecution." Befogging men's judgment by means of an appeal to what may be called the commercial "unwritten law" has long been popular with those whose actions would not stand close scrutiny. Convince your hearers that you are the weak and innocent victim of some huge (albeit shadowy and unsubstantial) conspiracy, and your battle is half won. Appeal for sympathy and abuse your opponent if your case is weak, and the results may be similar to those so inimitably portrayed by Dickens in the case of "Bardell *vs.* Pickwick."

In a widely circulated pamphlet, entitled "An Appeal for a Square Deal," these tactics, as applied to the commercial side of medicine, have been adopted by the Abbott Alkaloidal Company—through its owner and president, Dr. Abbott—and are being played for all they are worth. Nor is this pamphlet the only medium through which the company carries on its campaign of misrepresentation; circulars, "form" letters (ostensibly personal), articles in its own and in other journals, are but some of the avenues through which the medical profession is "appealed" to.

The exposé of the Abbott Alkaloidal Company and its methods appeared March 14. The reply, so-called, in the form of the pamphlet referred to, appeared four months later. In this "appeal" Dr. Abbott poses as a martyr to a just cause, as a defender of the rights of physicians, and with an air of injured innocence frantically begs for sympathy. These appeals for sympathy are based on three charges or allegations:

1. That The Journal and the Council on Pharmacy and Chemistry have singled out Dr. Abbott and his company for attack and that these attacks have been malicious and persistent.
2. That the company has been refused a chance to reply.
3. That when replies were published, they were garbled.

Is the Abbott Company Singled Out for Attacks?

> "Why am I and my Company singled out for persecution when other men and other similar concerns enjoy complete immunity?"
>
> "Personally I am convinced that there is a well-laid, carefully planned scheme to railroad the Abbott Alkaloidal Company to the 'scrap-heap' . . ."

The above are samples of the allegations. The Abbott Alkaloidal Company has not been "singled out" for attack, as our readers well know, though had it been we know of no concern whose methods would better have justified such a course. To such companies and concerns as have been exposed on many occasions in these pages, these claims to invidious distinction on the part of the Abbott Alkaloidal Company must seem amusing—especially to such as have insisted that *they* had been "singled out." The Journal has no apology to offer for what has been published, rather it owes its readers an apology for not exposing more of the Abbott Alkaloidal Company's products and methods. But read this!

> "Since the 'big' attack of March 14, there has been a continuous guerrilla warfare on me through the columns of The Journal. Hardly a number appears in which there has not been some scurrilous allusion to me or my work—insidious, sneering, spiteful, bitter."

The above statements are as specific and direct as they are false. Seventeen numbers of The Journal appeared between March 14 and July 15, when the pamphlet from which the above is taken was published. During these seventeen weeks, aside from Prof. Matthews' paper (March 21), there did not appear in The Journal so much as a paragraph about Abbott, his company, his products or his publications. The only modification of this direct, positive statement is that Prof. Sollmann, in his series of articles on "The Broader Aims of the Council on Pharmacy and Chemistry," incidentally included in a list of nostrums of other manufacturers, "cactin" in one place and calcidin in another. Instead of conducting a 'guerrilla warfare" THE JOURNAL has purposely avoided any reference to the concern or its products, has deleted from published articles matter that reflected on them and refused to print communications that poured in after the exposé of March 14. Had we desired to publish more on the subject, there would have been no lack of material.

> " . . . between Nov. 12, 1907, and March 11, 1908, the enormous total of 290 inches was given up to them (some 25 pages of solid brevier, all told) . . . ."

By actual measurement, the amount of space devoted to the concern between the dates mentioned was 13½ pages of *leaded* brevier (about 10 pages of *solid* brevier), *of which Dr. Abbott's own letter occupied over 3½ pages.* In other words, our matter actually took up, not 25, but 7½ pages of solid brevier (about 10 pages of leaded brevier). This point is trivial, but it demonstrates, with foot-rule accuracy, the wildly inaccurate and false statements with which this "appeal' abounds.

> "Letters of ours replying to these JOURNAL attacks have been persistently refused publication"

> 'No opportunity having been accorded me to reply through the medium of attack "

Dr. Abbott's "repeated letters" consisted of four communications submitted for publication as replies to matter that appeared in THE JOURNAL. Two of these—the first and last received—were published. Two, one on "cactin," the other on calcidin, were returned, with letters to the effect that these "answers" did not discuss the points at issue, but were really advertisements.[1]

> "Denied space for reply in THE JOURNAL A M A. . we have been forced in self defense to take some space for the discussion of these terrifically criticized points . . ."

This is quoted from the "Appeal for a Square Deal" and is a charge specifically made with reference to our article of March 14. **We have received no communication for publication from this concern since the letter of Jan. 6, 1908, which was printed in The Journal, Jan. 18, 1908.** No refutation of the charges made. no "answer" in any shape or form, no request for space, nothing whatever in the way of a communication for publication has been received from Dr. Abbott, from the Abbott Alkaloidal Company, from the *American Journal of Clinical Medicine*, nor from any one connected with Dr. Abbott, his company or his "publication" since the article referred to was published.

WERE THE ABBOTT LETTERS GARBLED?

Dr. Abbott, both in his "appeal" and in the flood of letters which he has inflicted on the editors of medical journals all over the country, specifically charges THE JOURNAL with garbling and making "essential changes" in the letters we published.

> "When letters of ours *have* been published, they have been garbled, distorted and used as 'pegs' on which to hang further attacks"

> ". . . . replies . were garbled, distorted and used as the basis for further attacks"

> "Six hundred words of our reply were omitted, and about forty essential changes made in the text."

These statements have been made with such persistency, the changes have been rung on them so many times and they have been reiterated by so many journals whose editors undoubtedly have taken for granted that they were the truth, that probably Dr Abbott himself begins to believe they are true. In any case, they help to bolster up the charges of "persecution" *and "conspiracy" and to divert attention from* the damaging facts we published.

The last of the above quotations refers to Dr. Abbott's letter replying to the H M C article. This letter occupied thirty-one pages of typewritten manuscript and contained over 5,800 words. When we published it we omitted, as we were careful to specify at the time, some matter of a pathetic, lacrimose character which had no relation to the subject, also references to the Council on Pharmacy and Chemistry (as the Council had had nothing to do with the matter), and the paragraphs which impugned our motives. In other words, the portions omitted were the introductory and closing paragraphs which had nothing whatever to do with the discussion of H-M-C, but were merely an Abbottesque display of verbal pyrotechnics in which mock heroics and anathemas were about evenly distributed As published (Jan. 18, 1908) Abbott's answer occu*pied three and one half pages (over 5,200 words), the greater* portion of which was so much beside the question that we felt obliged to apologize at the time for inflicting so much irrelevant matter on our readers.

Now, as to the charge of garbling: We know of no better method of disposing of this most ridiculous of falsehoods than by giving in parallel columns each sentence of the article as published which was in any way whatever modified. The article was addressed *"To the Editor,"* and therefore the personal pronoun "you" was substituted for the impersonal form *adopted in the various parts of the Abbott letter.* These. as will be noticed, constitute the greater part of the "essential changes'[2]

AS IT APPEARED IN DR. ABBOTT'S MANUSCRIPT	AS IT APPEARED IN THE JOURNAL
" the troubled surface of *the writer's* mind as to just what impression *he* intended ...."	" ... the troubled surface of *your* mind as to just what impression *you* intended ..."
"... an evidence of purposeful deceit or *damnable* ignorance"	".... an evidence of purposeful deceit or *of* ignorance"
"The writer of The Journal article says	*"Your* article says: ...."
" I am antagonized on this point by *the presumable author of your anonymous communication*, but the fact "	" ... I am antagonized on this point by *you;* but the fact ...."
" .. and *my critic* ought to know this .. "	" ... and *you* ought to know this .. "
'*The writer of The Journal article* insinuated that .. "	"*You* insinuated that ...."
"Cactin, *they insisted,* is a secret nostrum . "	"Cactin. *you* insist, is a secret nostrum ...."
" . . because identifying chemical tests were not available—and *we only* made it"	" . . because identifying chemical tests were not available—and *because only we* made it."
". that *The Journal* fails to inform *its* readers that ... "	".... that *you* fail to inform *your* readers that ...."
" by *the* unfriendly attitude of the Council toward me and my products"	" . by *your* unfriendly attitude"
"The trademark. to which *The Journal* objects...."	"The trademark, to which *you* object ... "

From the above it will be seen that the charge of "garbling" and "distortion" is as frivolous as it is false, and indicates the straits to which this company has been reduced in order to make a case.

MEDICAL JOURNALS MISLED.

Had the falsehoods and misrepresentations referred to appeared only in the matter sent out by the Abbott Alkaloidal Company, no notice would have been taken of them. They would have been ignored, also, had they been reproduced only in such medical journals as exist through the patronage of nostrum promoters, as such journals are naturally opposed to the propaganda for reform in proprietary medicines. But the editors of a number of medical journals of a higher grade—"independent" in fact instead of only in name—have lent their pages to the defence of the Abbott Alkaloidal Company and have criticized THE JOURNAL for its "unjust attack." This, we are sure, they would not have done had they known all the facts. Had they read, for instance, our article of March 14—which Dr. Abbott lugubriously designates the "big attack"—they would have seen that the "Appeal for a Square Deal," instead of being an answer, only meets the charges with counter-charges—a method of evasion as weak as it is old. The exposé of the company which appeared March 14 was printed in brevier type, in the back part of THE JOURNAL, with no "scare heads" to attract attention. Many missed it, and among these, undoubtedly, were the editors of the journals last referred to. That they, and others interested may compare the charges with the evasive "answers" given in the "Appeal," we are making reprints of the March 14 article, a copy of which will be sent on receipt of a stamp for postage.

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[1] As evidence of the consideration shown Dr. Abbott, and in refutation of the charges that he was not given "fair play," we reproduce a letter sent to him with advance page proofs of the H M C exposé

Dr W. C. Abbott Dec. 19, 1907.
Ravenswood Station, City.

Dear Doctor:—When we published the matter in regard to calcidin and cactin, you sent in a reply which we refused to publish for the reason that it was not a direct reply to the published statements, but was a general denial combined with a lot of matter that amounted to an advertisement of your firm and its products

We are enclosing pages from this week's issue of THE JOURNAL containing matter to which you may wish to reply.' We shall be glad to publish such reply, provided you confine such reply to an answer to the statements we have made. Our statements are very definite—in no way general—and if they are not correct, we shall be glad to publish any statements that you may make showing that they are incorrect.

[2] In addition to this we should state that the final "e" in the spelling of all alkaloids. as for instance quinin was dropped to conform to JOURNAL style, and for the same reason "upon" was changed to "on."

The various charges still remain unanswered—unless evasion and attempted justification constitute an answer. Those who desire to judge for themselves, however, can do so by comparing the reprint of our article of March 14 with the pamphlet, "An Appeal for a Square Deal."

Uncovering fraud and exposing misrepresentation and deceit is ever a thankless task, but THE JOURNAL would be remiss in its duty if matters of vital interest to physicians were ignored—and thus tacitly condoned—because of the unpleasantness which attaches to bringing such things to light. Had THE JOURNAL followed the line of least resistance the propaganda for reform would never have been instituted and the nostrum manufacturer would ever have sung the praises of the American Medical Association and its JOURNAL. We are inclined to think, however, that had this policy of non-resistance been pursued there would have arisen from an outraged medical profession a very forceful "appeal" to the effect that it, too, was entitled to "a square deal."

The Quack in Medicine and Pharmacy.

Having described the different varieties of the genus quack, the *Druggists Circular*, in an editorial, October, 1908, continues: "We are glad that improved college facilities, which are giving us better educated druggists, and better pharmacy and medical laws, the various pure food and drugs acts, and the awakening of the public out of the delusion under which they have been laboring as to the ability of a 'formula' to do or to undo the work of Nature, are putting quackery before the world in its true light, and are inducing druggists who have consciously or unconsciously been practicing it, to turn with disgust from its degradations."

There is no question in the mind of the editor of the *Circular* as to what constitutes a quack. He gives the following definition with which few will disagree: "A quack is a man who, not having qualified for the practice of medicine, still sells his advice and prescribes his drugs, claiming that they will prove efficacious in relieving or curing disease. Professional physicans very properly refuse to have any more dealings than is necessary with such a person. Often the quack is a man who travels around so as to strike town about the time that county court or the agricultural fair opens, and occasionally he is so successful as to be able to open a factory and pay large sums to the newspapers for advertising and for abusing the druggist who dispenses official preparations on physicians' prescriptions. On the other hand, the quack may be a retail druggist with a ready-made 'cure' for consumption, cancer, Bright's disease, scrofula, dyspepsia, and the whole catalogue of ills. Maybe he offers the same preparation as a cure for all these complaints, or he may have a different one for each. We once heard a druggist say that he had seen labels on a brother druggist's own preparations which would be a credit—or a discredit, we have forgotten which it was he said—to the worst kind of 'patent medicine' proprietor."

GARDNER'S SYRUP OF HYDRIODIC ACID.

Report of the Council on Pharmacy and Chemistry.

The following report on Gardner's Syrup of Hydriodic Acid was submitted to the Council by a subcommittee:

> This product was first taken under consideration in February, 1906. Reference to several committees was necessary, on account of the peculiar claims for the pharmaceutical, and especially the therapeutic, superiority of this preparation. At this time, as the Council did not have the necessary facilities for investigating therapeutic claims, the product was approved by the Council.
>
> Since this time, however, the manufacturers have laid especial stress in their advertisements on some highly improbable claims, stating, for instance, that this Syrup of Hydriodic Acid possesses "all the advantages, with none of the objectionable symptoms caused by potassium iodid, or other forms of iodin medication." To one with even an elementary knowledge of chemistry, the absurdity of this statement should be evident. The alkaline reaction of the tissues makes it impossible that hydriodic acid should persist as such in the body. In fact, the iodin must circulate in precisely the same form, whether administered originally as potassium iodid or as hydrogen iodid. The qualitative identity of the therapeutic actions is further proof of this fact, were such needed.
>
> Since the most important objectionable symptoms of iodid medication arise after the absorption of the drugs, and since hydrogen iodid is conceded to be readily absorbed, it is evident that these symptoms must be equally liable to occur with hydrogen iodid as with potassium iodid, provided that equivalent doses of iodin are administered. An apparent difference in clinical results would arise if the one drug is habitually given in smaller doses than the other. Since, however, the iodin is present in the body in precisely the same form, whether it is administered as a hydrogen iodid or potassium iodid, it is evident that a given degree of therapeutic effect would correspond to an identical tendency to iodism, whichever drug was used. If, as appears to be the case, the use of hydriodic acid is commonly restricted to those cases in which only minimal doses of iodin are required, the relative infrequency, or even absence of symptoms with such doses would not prove that the drug itself is less apt to cause them than is the potassium salt.
>
> These facts are in reality self-evident; but since the Council now has the proper facilities for obtaining the views and experiences of clinicians, it voted to submit the statement in question to its staff of clinical consultants, and to be guided by their advice.

OPINIONS OF THE CLINICAL STAFF.

The following is an epitome of the replies of the eleven members of this staff who had used the article or who expressed an opinion to the questions sent out by the Council:

1. QUERY: "Do you think it possible that such a preparation could be devoid of the usual effects of iodin preparations?"

Eight reply that they consider this, *a priori*, impossible; three stamp the statement as highly improbable, but do not care to say that it would be impossible. One of the correspondents remarks: "While distinctly taking the position that under many conditions we must accept clinical results which we find not explainable by our theoretical knowledge, where the conditions are so simple as in this case and where we know that the iodin, whether administered as hydrogen iodid or potassium iodid, must behave in the same way, after absorption, I believe that no properly educated and correct thinking physician can or will, after due consideration, fail to reject the claims of superiority made by the proprietors of this preparation."

2. QUERY: "Would you consider it necessary to make clinical experiments to settle this question?"

Seven of the correspondents consider this superfluous; four of these have had some experience with the article. Four, who have not used this product, consider a clinical test advisable. Under Query 3 we discuss the results of such tests.

3. QUERY: "When using Gardner's Syrup of Hydriodic Acid, have you ever noticed from it any of the objectionable effects of iodin preparations?"

Six of the correspondents have not used it, or are uncertain whether or not they used the product made by Gardner. One correspondent remarks: "Never used it. Repelled by claims of superiority which exaggerate disadvantages of potassium iodid and overlook the small amount of iodin used in the preparation advertised." The five clinicians who have prescribed the preparation report as follows: 1. Objectionable iodin effects in two cases, both patients being *intolerant of all iodin preparations.* 2. Has only prescribed it once or twice, but thinks he has seen iodism in one case, some years ago; does not recall clearly. 3. No; but has used this make very little, and then always in very small but continued doses. 4. No, but always used it in small doses. 5. Yes, several cases in children; typical coryza, etc., with doses of three drams three times a day.

Conclusions: It appears that typical iodism occurred in several cases, after doses corresponding to 10 grains or less of potassium iodid per day, and this in a rather limited clinical material. Objectionable iodin effects are, therefore, not uncommon. Several correspondents remark that the relative infrequency of iodism is easily explainable by the fact that syrup is rarely employed in conditions which demand an active iodin medication and that it is, therefore, always taken in small doses. In fact, the main if not the only point of superiority of the syrup appears to be in its flavor.

These clinical opinions and experiences, therefore, are in complete agreement with the judgment of the committee, namely, that the therapeutic claims made by the manufacturers for this article are exaggerated and misleading.

OTHER MISSTATEMENTS.

The above is by no means the only misstatement in the printed matter issued by this manufacturer. In the publication, "The Applications of Iodin," issued in 1907, there occur the following misleading statements which, since they refer to plainly chemical facts, did not require submission to the clinical staff:

That the administration of potassium iodid after meals greatly impairs its physiologic action "by its chemical union with the various food products" (Page 19). So far as the committee knows, potassium iodid does not combine with the food products in the stomach.

"Iodid of potassium, having an alkaline reaction, neutralizes the hydrochloric acid in the gastric secretions, causing indigestion, loss of appetite and depression" (Page 19). The United States Pharmacopeia states, under Potassii Iodidum: "Its aqueous solution is neutral or has a slightly alkaline reaction on litmus paper." The slight occasional alkalinity would be physiologically insignificant, and it is absurd to claim that this alkalinity causes "indigestion, loss of appetite and depression."

"The dose of iodid of iron is so small that the amount of iodin contained therein is of little advantage" (Page 19). As a matter of fact, the pharmacopeial average dose (1 c.c.) of the Syrup of Iodid of Iron contains as much iodin (0.85 grains) as a teaspoonful of Gardner's Syrup of Hydriodic Acid (0.83 grains).

"In hydriodic acid the iodin is in combination with hydrogen, one of the elements of the natural secretions of the body, and is, therefore, in physiologic harmony" (Page 21). No comment is needed.

It is implied elsewhere (Page 29) that potassium iodid decomposes more readily, with the liberation of iodin, than does hydrogen iodid. This is contrary to the prevailing opinion, and would require definite evidence before it could be accepted. It is also stated the large doses of potassium iodid in syphilis are necessary, because the gastric decomposition prevents complete absorption. This is certainly untrue, for potassium iodid is absorbed almost quantitatively.

These, and numerous other misstatements, constitute violations of Rule 6; and it is, therefore, recommended that Gardner's Syrup of Hydriodic Acid be removed from the list of remedies approved by the Council; it is further recommended that this report be published.

The Council postponed final action on the report pending its submission to R. W. Gardner. This having been done, and the reply of Mr. Gardner submitted to the Council, the above report was adopted and ordered published.

W. A. Puckner, Secretary.

Correspondence

A Plan for Checking the Growth of Irregular Schools and Destroying Charlatan Factories.

Brooklyn, Nov. 5, 1908.

To the Editor:—If the profession be really desirous of destroying the freak systems, if it ever intends to abandon its miserable *laisser-faire* policy in "dealing" with great evils (in the soiled waters of which policy it would appear at times to be wholly steeped), and if it shall yet bestir itself and attain an actual solution of this problem, how, in all human probability, can it accomplish such a beneficent result? What shall the method be?

The right remedy lies so near that only an occasional Morton Prince sees it clearly.

Morton Prince, in the *Boston Medical and Surgical Journal*, Oct. 17, 1908, says that "the present-day crude and unscientific system of psychotherapeutics known as Christian science, mind cure, osteopathy, and what not . . . should, properly speaking, be looked on as opprobria on medical education rather than denounced as public evils."

We must teach systematically all the freak systems in the regular schools! The chairs of therapeutics must be amplified and must cover all the freak systems thoroughly. There must be no limit to their scope. There is really nothing absurd about such a proposition, for, scoff at the freak systems as we may, it is an undeniable fact that, individually, we know very little about them at first hand. All truth does not reside in us. We are not the divinely appointed, sole and sacred repositories and custodians of it, after all. We are entitled to possess, and it is our duty to acquire, the kernels of truth which lie buried in the potpourri of claptrap; to separate the wheat from the chaff, to tear out of the stroma of flubdub the modicum of parenchymatous truth always contained therein.

The irregulars cure a class that we do not cure—a bitter truth. "The man in the street" cares nothing for your codes and creeds.

The systems must be studied coordinately and in true perspective. No sectarian product could result from this. Instead of acquiring a hodge-podge of distorted knowledge concerning the irregular schools after graduation, the student would be fitted to outclass the whole tribe of licensed charlatans. Now we can only gnash our teeth at them. It would be like teaching knowledge of sexual matters in the home circle, instead of allowing children to acquire it on the streets.

Merely on historical grounds serious account could be taken of homeopathy. A man can study homeopathy at Rush or at the University of Michigan. That's precedent enough. Only he should not be permitted to limit his studies to one system.

The adoption and application of this plan would necessitate the appointment of associate or adjunct professors who would have to fit themselves for their posts by special study at the freak schools.

Has not regular medicine itself emerged out of a fearful tangle of false postulates, impossible dogmas, Arabic inanities, Galenic heresies and Hippocratic platitudes? Have we not had our many editions of Brown and of Paracelsus? On what meat have our medical Cæsars been themselves fed that they should balk even at osteopathic diet?

After the many centuries of tough feeding that we have endured, do we still suffer from intellectual dyspepsia? Can we even yet not eat thankfully the coarse diet with which the medical larder is stocked (as well as such delicacies and titbits as the side-chain hypothesis of Ehrlich and the opsonin therapy of Wright), digest its valuable content, egest the cellulose of rot and buncombe, and grow yet fatter? Aye, and even say a grace to Asklepios before the feast! We are eating this very diet as it is, swallowing psychotherapy and all the other cults with many a grimace. Let's put a better face on it. That's all. Let's swallow the pill gracefully.

Teach the freak systems for what they are worth, and in so doing destroy the incentive of patients to consult sectarian practitioners, thus absorbing the sustenance of the latter at its very source. They would soon suffer inanition. Legislation has done no more than recognize and license the freak systems and give representation to them on our examining boards. This is not a cure, nor yet a palliative. Indeed, it safeguards, wet-nurses and perpetuates these systems. It lies with ourselves to deal with a subtle enemy in a subtle fashion. The fire must be fought with the water of a subtly adequate resourcefulness, not through a legislative fire department through whose hose runs the kerosene of expediency and compromise.

Will the reactionaries rise up from their standpat quagmire, vainly strive to shake off the mud that tenaciously holds them in their miserable slough, and then declare this to be the greatest and most comprehensive scheme ever offered for a wholesale exploitation of quackery? Hark, hear ye not their hoarse croaks even now?

Whom have we to thank for the present demoralizing relationships between the regular and irregular schools, if not the reactionaries? Why be guided longer by our clay-footed idols? Let medicine see the birth of a Young Turk party which shall ask for bread; long enough have we been served stones, garnished with sauce *laissez-faire*.

Can we not learn a lesson from the phagocytes, whose methods we study with such assiduity? In the human body's admirable scheme of things there is no license bureau for pathogenic bacteria. Let us invoke the opsonin of a broader type of medical school to the end that the professional blood stream be cleared of its unwholesome elements.

Arthur C. Jacobson, M D.

Nitrite Poisoning from Ingestion of Bismuth Subnitrate.

New York, Nov. 2, 1908

To the Editor:—Your editorial in regard to the danger from absorption of nitrites in the administration of large doses of bismuth subnitrate is very much to the point. To obviate this danger I have been employing the hydrated bismuth oxid for the past year with good results. The ingestion of this compound results in bismuth and water after passing into the intestines and is harmless even in large doses such as are required for Roentgenologic work. W. H. Dieffenbach, M D

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

Dr. McCormack in Ohio.

Dr. J. N. McCormack has just concluded a most successful tour of Ohio, having devoted the month of October to work in that state. The itinerary included Dayton, Springfield, Piqua, Ada, Fostoria, Fremont, Marion, Circleville, Portsmouth, Ironton, Jackson, Gallipolis, Athens, Marietta, Newark, Delaware, Wooster, Cleveland, Elyria, Youngstown, Akron, New Philadelphia, East Liverpool and Cincinnati. Reports from these cities are unanimous to the effect that the meetings were well attended and that the public manifested marked interest in the work. Circumstances were peculiarly favorable in Ohio, owing to the careful work along educational lines that has been carried on by the State Committee on Medical Legislation for the past year.

At Springfield a large audience was present, Gen. J. Warren Kiefer, member of Congress for the district, presiding. At Piqua the meeting was held on Sunday afternoon in the Y. M. C. A. Auditorium, which was "filled by a representative audience, swelled by the presence of nearly every medical man in the city, besides a number from neighboring places." Following Dr. McCormack's address, the clergy of the city spoke, testifying to the value of his work. The meeting was designated by the local press as one of the most interesting and valuable which has been held in the city for some time.

At Ada the audience was larger than could be accommodated. The Ada *Record* says: "The big auditorium was packed with an audience that even filled the rear aisles and all were intensely interested in the very able address, which will certainly leave a lasting impression for good in the community." The Ada *University Herald* says: "Seventy five people stood in the aisles and doorways of the Presbyterian Church last Monday evening, unable to find seats . . . The lecturer spoke for two hours to a crowded house, holding the interest and attention of the audience to the end."

At Fostoria the meeting was held in the armory and the audience filled the building. The Fostoria *Times*, beside an extended account of the meeting and an abstract of the lecture, comments editorially on the importance of the work being done by the Association and says: "The lecture by Dr McCormack last night not only was instructive . . but also is significant of the movement of the medical profession to a higher plane politically. Right here in Fostoria the coming problems are sanitation, water supply, disease prevention, smallpox eradication, sewage disposal, clean streets, fire protection in public buildings. . . . It is but a step from the cure of the body to the cure of the ills of the body politic" Following Dr. McCormack's address, remarks were made by ministers, the superintendent of education, etc, and arrangements were made for the organization of a committee to provide lectures on public hygiene and meetings in the future along the lines recommended by Dr. McCormack. It is estimated that nearly 500 people attended the Fostoria meeting At Fremont unfortunate weather conditions served to reduce the size of the audience, but the press of the town was none the less hearty in its commendation

At Marion a large audience filled the First Presbyterian Church and showed great appreciation of the address A number of the ministers of the town, prominent members of the women's clubs, the superintendent of schools and others spoke, endorsing the work of the Association and pledging their support in carrying it on. The Marion *Mirror* states that following the meeting a local sanitary defense league was organized.

At Ironton a most successful meeting was held *The Morning Irontonian* says: "Dr J. N. McCormack addressed an audience that filled to its capacity the large church which had been thrown open for the occasion. For almost two hours the speaker held the closest attention of the large and intelligent audience. . . . The keynote of the address was organization and cooperation . . . His suggestions culminated in a motion by Rev. Dr Jackson of the First Presbyterian Church that a committee be appointed composed of representatives of the medical profession, the ministry, the schools the civic society, the women's clubs and the press, to put into execution the plan of campaign mapped out by the speaker . . . The thoroughly enthusiastic and highly enlightened audience passed out of the church to spread the gospel of good health and clean morals throughout the community The fruits of the meeting will be manifest in many ways in this community for years to come."

At Newark the well attended meeting was presided over by the chairman of the city school board At Delaware a large audience filled the chapel of Ohio Wesleyan University The meeting was presided over by Prof. R T. Stevenson At Youngstown an interested and enthusiastic audience was present, and arrangements were made to hold a meeting in the near future to organize a local health league

Dr. McCormack was accompanied throughout his tour by officers of the state association. Dr. D R Silver of Sidney, the president, and Dr. J. H J. Upham, of Columbus the secretary of the Ohio State Medical Association, devoted a considerable amount of time to this work. A number of the councilors also took part in the meetings in their districts The effect of this campaign for improved health conditions can not fail to be apparent in Ohio in the future.

Registration Time Limit Upheld by Supreme Court.

The Supreme Court of Michigan has just rendered a decision in a suit brought under the law regulating the practice of veterinary medicine, which is of importance owing to the general principle involved. The law was passed in June, 1907, and provided that all persons who had been engaged in the practice of veterinary medicine for five years preceding the passage of the act must register before the state veterinary board before Jan. 1, 1908, or be prohibited from practicing the state. Suit was brought to determine whether this provision of the law was mandatory on the board or not. On an appeal to the higher courts, the Supreme Court decided that practicing veterinarians who failed to register before Jan. 1, 1908, can not now be registered and continue to practice by virtue of their previous practice.

Duties and Opportunities of County Health Officers.

In the November *Mississippi Medical Monthly* appears a letter, published as an editorial, from Dr. Robert Donald, Hattiesburg, one of the health officers for the state, in which are discussed the work and especially the possibilities of the county health officers.

"It is a fact well known to me," says Dr. Donald, "as well as to all of the doctors and most of the people of this state, that numbers of physicians, holding important positions over the state as guardians of the public health for their respective counties, are only noticeable in their county and state medical societies by their very conspicuous absence. It is also a fact that these gentlemen are most uniformly apathetic as regards important affairs of public health in their respective communities and are only aroused from this lethargic state once a month to march up to the chancery clerk's office and sign the receipt stub for the ridiculously small pay warrants allowed them by painfully economical (in matters of public health) boards of supervisors. It is, furthermore, a well and commonly known fact that the service rendered by the average county health officer is not worth one cent more than he is paid. . . . As county health officers let us make ourselves worth more than the paltry fifteen or thirty dollars we are now grudgingly given."

There is no question that in many states the county health officer system is utterly farcical and worthless. While the county spends thousands of dollars for courthouses, jails, sheriffs, county attorneys, judges and juries to protect property, it often limits its entire expenditure for the protection of life and health to the ridiculously inadequate amount paid to the physician in the county who happens to have the strongest political pull. In many cases the recipient of this gratuity does not consider that he owes the people of the county anything in return. As Dr. Donald says, the county health officer is often not worth even the pittance which he receives. With the recent enlightenment of the profession and the public the time has come to put an end to this ludicrous and medieval system and to insist that each county and state shall provide an effective protection for its citizens against typhoid fever, smallpox and tuberculosis, as it does against holdup men and safe blowers. One of the first steps in such a reformation will be for self-respecting physicians to refuse to do anything except modern, up-to-date, sanitary work and also to refuse to do such work unless they are paid on the same basis that the state's attorney and county judge are compensated.

Regarding medical legislation Dr. Donald says: "It is the continual cry of the medical profession, 'Legislate! Legislate!' when our code of laws is crammed with numbers of good medical laws and none of them, or rather but few of them, are being enforced, when their proper general and uniform enforcement would result in untold good for the people and when, having shown them what a good thing it is, we shall have almost anything at their hands in return for what we have done. . . . Let us have done with this cry of 'Legislate!' and get to work."

There is a constant tendency on the part of the medical profession to attempt to find relief for all the ills of the body politic by adopting a new law or an amendment to an old one, when, in the majority of cases, the laws already in existence would be amply sufficient were they properly enforced. For instance, it is unnecessary to attempt to prove that a quack or a faker is practicing medicine within the meaning of the medical practice act when it is much easier and more effective to show that he is a common swindler. If satisfactory health regulations are ever secured, it will be by using existing laws to the fullest possible extent and even by risking an unfavorable decision occasionally, rather than by staying carefully within the conventional interpretation of the law, refusing to risk an adverse decision for the sake of the health of the people. As lawyers will testify, quite as much of our existing law consists of decisions as of statutory enactments. It would be well to have a few test cases brought on some fundamental principle. For example, it has been decided that the state owes it to the individual citizen to furnish him protection for his life and property from mob violence. If a riot breaks out and the citizen's property is destroyed, he can look to the state for compensation. If the state allows its water supply to be contaminated and the citizen contracts typhoid fever thereby, resulting in loss of health and business, why can he not hold the state responsible and compel it to indemnify him for his loss? If an epidemic of yellow fever, resulting from the carelessness of the state in furnishing proper sanitary protection, causes a quarantine and loss of business to merchants thereby, why can not the state be held responsible for paralysis of business through quarantine as well as for loss through mob violence? If the financial liability and responsibility is once properly determined, there will be no further difficulty in securing abundant funds for sanitary work in each county and state. Dr. Donald's letter is most timely and suggestive, especially in the South, where public sanitation is of greater importance even than in the North.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
Bowling Green, Kentucky.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Fourth Month: First Weekly Meeting.

General Subject for the Month: Dislocations and Diseases of the Joints.

ANATOMY.

Synarthrosis, amphiarthrosis, diarthrosis; subdivisions of each. Structure of true joints; articular surfaces, articular cartilages, capsular and accessory ligaments, synovial membrane, synovial fluid, synovial fringes, intra-articular ligaments. Blood vessels, lymphatics and nerves of joints. Fixation of joints by ligaments, muscles, cohesion and atmospheric pressure.

DISEASES OF THE JOINTS.

A. Pathologic Classification.*

1. Acute traumatic (non-suppurative). 2. Suppurative. 3. Tuberculous. 4. Chronic (non-tuberculous) arthritis: (a) serous, (b) ulcerative, (c) ankylosing, (d) formative, (e) fungous. Generic Pathology.†—1. Synovitis, may be (a) inflammatory (infectious, tuberculous, syphilitic, gonorrheal, typhoid, etc.), or (b) trophic (trophic, metabolic, senile, arteriosclerotic, toxemic, etc.). 2. Osteoarthritis may be (a) inflammatory (infectious, tuberculous, etc.), or (b) trophic (trophic, metabolic, toxemic, etc.).

B. Clinical Classification.*

1. Acute Synovitis.—Symptoms, pain, heat, redness, swelling, impaired function, malposition, muscular atrophy. Clinical course.
2. Chronic Synovitis.—(a) Chronic serous, (b) from muscular atrophy after acute, (c) foreign bodies in joint, (d) with infections, gonorrhea, etc., (e) intermittent form.
3. Infective Arthritis.—Follows osteomyelitis, serous synovitis, fibrous synovitis, or is primarily suppurative. Etiologic infections, gonorrhea, influenza, pneumonia, typhoid, rheumatism, scarlatina, etc.; varying pathology of each.
4. Arthritis Deformans.—Varieties, symptoms.
5. Tuberculosis of Joints.
6. Charcot's Joint Disease.—Arthropathy.
7. Spondylitis Deformans.
8. Wounds and Sprains.
9. Hysterical Joints.
10. Loose Bodies in Joints.

REFERENCE WORKS FOR THE FOURTH MONTH.

*Keen: Surgery. Vol. ii.
†Nathan: Am. Jour. Medical Sciences, April, 1906.
Bryant and Buck: Practice of Surgery. Vol. iv.
von Bergmann-Bull: System of Surgery. Vol. iii.
Park: Surgery.
Fowler: Surgery.
International Text-book of Surgery. Vol. i.
Wyeth: Surgery.
American Text-book of Surgery.
Stimson: Fractures and Dislocations.

Book Notices

TEXT-BOOK OF PHYSIOLOGIC CHEMISTRY. In Thirty Lectures. By Emil Abderhalden, O. Professor für Physiologie des Physiologischen Institute der Tierärztlichen Hochschule Berlin und Universitäts Professor. Translated by William T. Hall, Instructor in Chemistry, Massachusetts Institute of Technology, and George Defren. First Edition. Cloth. Pp. 722. Price, $5.00. New York: John Wiley & Sons, 1908.

For some years there have been two universally recognized standard text-books covering the subject of physiologic chemistry, or at least covering certain fields of the subject thoroughly and satisfactorily. Hammarsten's "Physiologic Chemistry" gives in a compact form the main facts of the subject, condensing wisely and well the enormous literature, keeping well up to date in the frequent new editions, and improving steadily from year to year. But Hammarsten's is neither a readable nor an inspiring book—it is too densely crammed with facts for that, and so it remains merely an invaluable work of reference. Hoppe-Seyler's hand-book of analytical methods is devoted solely to the task implied by its title, of giving methods by which the complex substances concerned in biologic chemistry may be identified, and quantitatively estimated; it does not concern itself with the physiologic side of the subject, or with the theories and problems of the physiologic chemist. There have been, of course, numerous smaller manuals and laboratory guides in English, as well as in other languages, but the two books mentioned have practically had the field to themselves when a thorough treatise was desired. More recently, S. Fraenkel has issued a systematic work on the properties of the substances of importance to biologic chemistry, a descriptive work, while the large "*Handbuch der Biochemie*," now being issued by Oppenheim, promises to furnish a complete compilation of the literature of physiologic chemistry prepared by investigators expert in the topics assigned to them. All these books, however, leave a gap in that part of the literature of most concern to the medical man, or to the person primarily interested in some branch of the biologic sciences other than biochemistry, namely, a readable discussion of the present status of biochemistry as it bears on the problems of physiology and medicine, and this gap is well filled by the book at hand. Probably the most readable book of the kind up to this time has been Bunge's delightful lectures on physiologic chemistry; but, unfortunately, Bunge's bias toward the "vitalistic" school of physiology prevented the book from offering an impartial view of the subject, and it has never been considered altogether reliable.

Abderhalden was at one time a pupil and assistant of Bunge. He has followed his old master's example in presenting his discussion in the form of lectures—and he seems to have inherited something of the master's skill in presentation. Having served several years as the chief assistant of Emil Fischer, and having been one of the most active in applying the skillful methods of this great chemist to the problems of physiology, Abderhalden has none of the bias of Bunge, but is a reliable observer and brilliant interpreter of biochemical processes. His book offers by far the most lucid and enjoyable account of the principles and problems of the chemical side of physiology, and it should be read by every physician who wishes to know how things are progressing in the sciences that are fundamental to our knowledge of the changes in the metabolic diseases. The first German edition was so warmly welcomed that it was exhausted in a short space of time, and we hope that the number of men with an interest in scientific medicine has now grown great enough in this country for a similar reception for the American edition. The translation is made from the first German edition, brought up to date in some particulars by Abderhalden. We most sincerely wish that the translators had also edited the work, so that it would have more satisfactorily represented the status of the subject in this country, for not a few American contributions and ideas have failed to receive consideration. As a translation it is fairly satisfactory and only a few errors can be detected.

Being presented in the form of lectures, the subject-matter gains in attractiveness and assimilability for the general reader. Abderhalden has a wonderfully wide fund of information, and discusses each topic from the broadest basis, selecting the evidence bearing on it from many sources and blending the heterogeneous materials into well-fitted foundations for the theoretical deductions. Medical readers will find that this book discusses physiology from more nearly the standpoint that they can best appreciate than almost any other work available in English, and that it is peculiarly attractive, both because of this and because of the success with which in each lecture Abderhalden carries the reader step by step from simple analogous processes to the more complicated conditions of intermediary metabolism. It is peculiarly a book which one can use for casual reading when odd quarter-hours are available, each lecture being distinct enough for independent reading. The style is such as to interest and entertain any person of even moderate scientific attainment, while at the same time imparting reliable information and stimulating one's interest in this fundamental branch of the most rapidly advancing side of medicine.

THE BABY: ITS CARE AND DEVELOPMENT. By Le Grand Kerr, Professor of the Diseases of Children in the Brooklyn Postgraduate Medical School. Cloth. Pp. 150, with illustrations. Price, $1.00. Brooklyn: Albert T. Huntington, 1908.

This book, which is intended for mothers, contains instructions for the mother's care of herself during pregnancy and for the preparation for the child, including descriptions of clothing for the infant and simple instructions for bathing and feeding it. The child's need of fresh air is emphasized, and the development, month by month, of a normal child, is described. Dr. Kerr emphasizes the importance of breast feeding, and states that only after persistent and patient efforts to improve the supply of breast milk should artificial feeding be resorted to. He gives simple formulas for preparing artificial feedings. On the whole, the book is one which physicians can safely recommend to their patients.

DEN STRIKTURERENDE T Og Dens Kirurgiske Behandling. By Dr. Joha Pp. 65, with illustrations. Christiania St 1908.

Stricture of the small intestine from tuberculous ulceration is a rare affection, and Nicolaysen takes the opportunity to review it on the basis of eight cases on which he has operated at the Deaconess Institute in Christiania. The monograph is fully illustrated and must prove valuable to those especially interested in the subject.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

REMOVAL OF GUNPOWDER GRAINS FROM THE SKIN

CATO, WIS., Oct. 15, 1908.

To the Editor:—Kindly inform me whether or not spots caused by gunpowder explosion can be removed from the skin after the wounds have healed, and if so how? A FRIEND.

ANSWER.—If seen shortly after the accident, the gunpowder grains can be picked out very readily. Much of the powder can be removed by the same process later on although this is tedious and difficult. Watson, and later Keyes, advocated the use of a cutaneous punch or trephine similar to that used for removing comedones. This punch, which has an extremely small caliber, is placed over the speck of powder and pressed down firmly with a rotary motion. Care should be taken not to use too much pressure or to enter the skin too deeply. The small particle of skin which projects from the trephine can be snipped off and a soothing ointment used as an after dressing. Hydrogen peroxid has recently come into general use in such cases. It is applied full strength or in a solution of 3 parts to 1 part of glycerin. Crile applies hydrogen peroxid until it has penetrated under the powder grains. The effervescence produced forces the grains out of their bed and they can then be readily removed with a pointed instrument.

DIRECTIONS FOR MAKING BREWERS YEAST

———, MISS., Oct. 29, 1908.

To the Editor:—Please give practical directions for making brewers' yeast. L. K.

ANSWER.—Probably in the absence of liquid yeast, the ordinary dry yeast in the form of yeast cakes will accomplish all therapeutic purposes for which yeast is applied. If it is desired to propagate yeast, however, a little brewers' yeast or a dry yeast cake should be placed in a solution of sugar, preferably glucose (about 4 per cent.), to which some protein matter, such as peptone, has been added, to maintain the nutrition of the yeast. Malt forms an excellent medium in which to propagate yeast, but flour or meal would do. If the temperature is allowed to rise above 15 C. (59 F.) the top yeast will be produced; if the temperature is at or slightly below 10 C. (50 F.) both top and bottom yeast will be produced; while below 9 C. (48 F.) only bottom yeast is obtained. The vegetation of yeast ceases at temperatures below 5 C. (41 F.) and temperatures above 20 C. (68 F.) are not favorable for its propagation. Care should be taken in the growth of yeast to prevent the access of wild yeasts and other microorganisms.

SAFETY OF MILK FROM ACTINOMYCOTIC COW.

Arlington, S. D., Oct. 31, 1908.

To the Editor:—Is there danger to a nursing infant to feed it milk from a cow that has "lumpy jaw?" N. K. Hopkins.

Answer.—So far as we know at present, there is no evidence to indicate that there is danger in feeding an infant with milk from a cow that has a typical, not far advanced, actinomycosis of the jaw, provided that the general nutrition of the animal is good. Since it is better to err on the side of safety, however, it is best to consider it unwise to use milk from any cow with "lumpy jaw" even though the disease is purely local and in the early stage. Certainly, if the actinomycotic lesion is the seat of more or less extensive secondary infection with pus microbes and penetrated by burrowing fistulas, the animal's general condition at the same time being below par, it can not be considered advisable to use the milk as food for infants.

WHEELER'S NERVE VITALIZER.

Pittsburg, Pa., Oct. 30, 1908.

To the Editor:—I recently saw a woman who has apparently acquired the drug habit from taking "Dr. Wheeler's Nerve Vitalizer," made by the J. W. Brant Co., Albion, Mich. When without the preparation this woman simply collapses, but in a short time after getting a new supply she is cheerful and bright in every way. I do not remember whether or not the composition of this preparation has ever been given in The Journal, but I should be glad to have the matter taken up. Thomas T. Kirk.

Answer.—In The Journal, April 11, 1908, page 1206, we published the result of an analysis of this nostrum which showed that it was composed chiefly of bromids. Quantitative determinations indicated the presence of 12.61 gm. of potassium bromid and 6.30 gm. of sodium bromid to each 100 c.c. of the "vitalizer." We also directed attention to the fact that many delicate women are dosing themselves with this or similar depressants believing that they are toning up the nervous system with a vitalizer. Instead of "nerve vitalizer," this nostrum might well be called "nerve devitalizer."

Association News

NEW MEMBERS.

List of new members of the American Medical Association for the month of October, 1908:

ALABAMA.

Hagood, R. B., Lowndesboro.
Sellers, N. E., Mobile.

ARIZONA.

Huffman, Ira E., Tucson.

ARKANSAS.

Pace, Henry, Eureka Springs.

COLORADO.

Wilson, Richard D., Holly.

CONNECTICUT.

Hupert, Julius, New Britain.
Noble, Henry S., Middletown.
Putinton, Charles O., West Hartford.
Sleeper, George E., Hartford.
Wilson, J. C., Hartford.

DELAWARE.

Pyle, J. P., Wilmington.

DISTRICT OF COLUMBIA.

Kemble, Adam, Washington.

ILLINOIS.

Johannes, H. C., Chicago.
Kappelman, John A., Evanston.
Leipold, A. T., Moline.
Logan, H. L., Salem.
Macy, H. C., Chicago.
Price, Oscar J., Chicago.
Reynolds, J. E., Chicago.
Steindler, Arthur, Chicago.
Ward, E. E., Sesser.
Was, F. P., Chicago.
Wessel, Perry H., Moline.

INDIANA.

Anderson, J. W., Odon.
Applewhite, Scott C., Seymour.
Botkin, C. E., Parker.
Beaty, W. H., Worthington.
Benham, Charles W., Vincennes.
Burkhart, T. A., Jasonville.
Caney, P. H., Vincennes.
Clifford, J. W., Worthington.
Clippinger, W. F., Inglefield.
Close, Thomas H., Scottsburg.
Davis, W. M., Worthington.
DeLong, Orville A., Azalia.
Empson, Blain, Seymour.
Ferguson, A. M., Huntington.
Gaylord, H. G., Indianapolis.
Gibson, C. W., Batesville.
Harris, W. W., Ellettsville.
Henderson, S. T., Fort Wayne.
Hill, J. C., Westport.
Jackson, J. M., Lyons.
Kamman, Geo. H., Seymour.
LaBier, C. R., Terre Haute.
Lamberson, H. M., Connersville.
Logan, Henry V., New Salem.
Maris, J. I., Waymanville.
Mull, Phillip L., Oldenburg.
McDowell, J. D., Vincennes.
McQueen, William, Cataract.
Miles, James, Merom.
Perrin, D. L., Seymour.
Pohlman, A. G., Bloomington.
Porter, Mae G., Elnora.
Stewart, O. H., Orleans.
Thomas, W. E., Clarksburg.
Tremain, M. A., Adams.
Voyles, Harvey, Bedford.
Wagner, Sam C., Wakarusa.
Welch, J. A., Letts.
Welch, O. F., Westport.
Willson, S. C., Anderson.
Wilson, W. L., Scipio.
Wood, R. S., Wheatland.
Wray, C. M., Lafayette.
Wright, E. D., Scipio.
Yocum, Boaz, Coal City.

IOWA.

Besore, W. M., Macedonia.
Hudek, J. W., Garnaville.
Jones, C. L., Shenandoah.
Morris, T. B., Atlantic.
Newlon, W. H., Fort Madison.
Oldag, G. C., Germania.
Sawyers, C. E., Centerville.

KENTUCKY.

Cook, R. W., Adolphus
Fewkes, John, Louisville.
Goodson, J. A., Dixon

LOUISIANA.

Herold, A. A., Shreveport.
Packer, J. A., Selma.

MASSACHUSETTS.

Duffee, T. E., West Gardner.
Dunham, Geo. P., Lawrence.

MICHIGAN.

Bell T. H. E., Montgomery.
Charles, C. H., Menominee.
DePree, Peter J., Holland.
Griffith, A. J., Sand Creek.
Hartman, P. L., Colon.
Hixson, Martha E., Grand Ledge
Holes, J. J., Battle Creek.
Hyndman, William, Cement City
Lachajewski, S. J., Detroit.
Lewis, J. D., Sears.
MacDonald, T. H., Petersburg.
Martin, W. F., Battle Creek.
Marker, J. J., Eloise.
Murphy, J. J., Pontiac.
Smith, F. L., Commerce.
Taylor, E. C., Jackson.
Webster, Ben, South Haven.
Witter, Frank C., Ann Arbor.

MINNESOTA.

Adams, Bertram S., Hibbing.
Ashley, Paul L., Virginia.
Barringer, P. E., St. Paul.
Boyd, C. A., Redwood Falls.
Bray, E. R., St. Paul.
Daugherty, E. B., Duluth.
Dolan, Chas. P., Worthington.
Dumont, Frank, Mankato.
Farrish, M. J., Sherburn.
Farrish, Robt. C., Sherburn.
Franklin, Albert J., Blue Earth.
Leck, C. G., Austin
Pringle, A. F., Northfield.
Seeley J. S., Faribault.
Schmitt, S. C., Blue Earth.
Smith, H. O., Shakopee.
Strang, David M., Northfield.
Wakefield, Kee, Hutchinson.
Wright, Chas O., Luverne.

MISSOURI.

Spinzig, Felix, St. Louis.

MONTANA.

Ferris, P. A., Butte.
Frisbee, J. B., Butte.

NEBRASKA.

Bent, F. H., Hayes Center.
Bliss, R. W., Omaha.
Hirschmann, H., Omaha.
Hollenbeck, F. B., Lincoln.
Nicholson, Frank L., St. Paul.
O'Connor, H. Kathleen, Omaha.
Roeder, C. A., Grand Island.
Wilson, M. L., Falls City.

NEW YORK.

Ballard, F. C., Rushford.
Bell, G. H., New York City.
Beuermann, J. A., New York City.
Brady, Stanley, New York City.
Burdick, H. E., Montezuma.
Case, G. M., Elmira.
Doege, Herman E., New Rochelle.
Ehle, Vernon R., Gloversville.
Finch, Edw. D., New York City.
Gain, J. C., Jamaica.
Grove, C. W., Geneva.
Hallett, T. H., Clyde.
Hunter, D. W., New York City.
James, R. C., New York City.
Kathan, D. L., Schenectady.
Kilham, E. B., New York City.
Kinney, Virgil C., Wellsville.
Lamphear, Annette E., New York City.
Lubrecht, Chas. A., Brooklyn.
Lucey, J. D., Stapleton.
Lyman, F. R., Hastings-on-Hudson.
Maxon, F. C., Jr., Chatham.
McCafferty, J. A., New York City.
Moore, A. H., New Rochelle.
Post, W. L., New York City.
Powers, Martin T., Westernville.
Rachlin, Nathan H., Brooklyn.
Reynolds, Frank, Syracuse.
Ross, W. H., Sayville.
Rupert, T. D., Geneva.
Sawers, F. H., Rochester.
Seeligmann, Gustav, New York City.
Sheehan, D. J., Spring Valley.
Smith, H. B., Corning.
Stein, Arthur, New York City.
Stockwell, James K., Oswego.
Strachstein, Abraham, New York City.
Thomas, J. S., Flushing.
Waterman, Whitney, New York City.
Will, Emery F., Batavia.

NORTH CAROLINA.

MacNider, Wm. B., Chapel Hill.

NORTH DAKOTA.

Fisk, D. A., Carpio.
MacCullum, C., Portal.
Malone, B. Elizabeth, Minot.
Semple, James, Langdon.

OHIO.

Brown, Geo. A., Barberton.
Calhoun, J. U., Lisbon.
Calvin, H. M., Salineville.
Coombs, J. W., Camden.
Cowden, N. W., Germantown.
Douglass, C. T., Kalida.
Ireton, Frank A., Newtonville.
Fisher, Emerson W., Portage.
Krone, Henry, Hamilton.
Ryan, W. A., Dayton.
Shipe, W. T., Middletown.
Tate, Chas. H., Dayton.
Warden, C. G., Cleveland.

OKLAHOMA.

Brodie, W. W., Tulsa.
Conn, L. D., Chant.

PENNSYLVANIA.

Ahlborn, M. B., Wilkes-Barre.
Chapman, L. E., Warren.
DeKay, J. Miner, Starrucca.
Klase, Harry E., Jerseytown.
Lawton, H. C., Yeagertown.
Light, J. J., Lebanon.
Martin, J. L., Pittsburg.
Percival, M. F., Philadelphia.
Walter, Georgiana, Christinia.

RHODE ISLAND.

Gardner, G. W., Providence.
Haberlin, J. H., Pawtucket.

SOUTH DAKOTA.

Rustad, E. L., Platte.
Sawyer, Ora O., Dell Rapids.
Subera, H. W., Sioux Falls.

TENNESSEE.

French, J. E., Memphis.

TEXAS.

Caylor, H. C., Canadian.
Lusk, H. N., Toyah.
Maloy, E. D., Temple.
McDaniel, A. C., San Antonio.
Thomas, E. E., Frosa.

UTAH.

O'Donnell, M. Garrett, Vernal.

VERMONT.

Hurley, F. J., Bennington.

VIRGINIA.

Holladay, G. G., Portsmouth.
Nuckolls, Chester B., Hillsville.
Randolph, John, Arvonia.

WASHINGTON.

Monroe, W. A., Tacoma.

WEST VIRGINIA.

Waddell, Chas. W., Fairmont.

WISCONSIN.

Brown, A. L., Wausau.
Nolan, W. N., So. Kaukauna.
Senn, C. U., Adell.

WYOMING.

Roberts, W. H., Sheridan.

The Public Service

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Nov. 6, 1908.

SMALLPOX—UNITED STATES.

California: Berkeley, Oct. 3-10, 1 case; San Francisco, Oct. 10-17, 12 cases.
District of Columbia: Oct. 10-17, 1 case.
Illinois: Chicago, Oct. 17-24, 1 case.
Kansas: Wichita, Oct. 10-17, 1 case.
New York: New York, Oct. 10-17, 1 case.
Ohio: Cincinnati, Oct. 6-13, 2 cases.
Washington: Spokane, Oct. 10-17, 1 case, imported.
Wisconsin: LaCrosse, Oct. 10-17, 1 case.

SMALLPOX—FOREIGN.

Ceylon: Colombo, Sept. 5-19, 31 cases, 4 deaths.
Denmark: Copenhagen, Sept. 19-26, 2 cases.
France: Paris, Sept. 26-Oct. 3, 3 cases.
India: Rangoon, Sept. 12-19, 2 deaths.
Indo-China: Saigon, Sept. 5-12, 3 cases, 3 deaths.
Italy: Palermo, Sept. 12-26, 2 cases.
Mexico: Alvarado, Oct. 24, 15 cases, 1 death; Tlaco Talpan, present; Veracruz, Oct. 13, 1 case.
Peru: Callao, Sept. 26-Oct. 3, 1 case; Lima, 1 case.
Russia: Moscow, Sept. 19-26, 18 cases, 7 deaths; St. Petersburg, Sept. 5-26, 10 cases, 1 death.
Turkey: Constantinople, Sept. 28-Oct. 1, 14 deaths.

YELLOW FEVER.

Brazil: Manaos, Sept. 12-26, 4 deaths; Para, Sept. 26-Oct. 10, 4 cases, 4 deaths.
France: St. Nazaire, to Oct. 20, 11 cases, 6 deaths.
Martinique: *Fort de France, Sept. 26-Oct. 10, 8 cases, 1 death.*

CHOLERA.

China: Hongkong, Sept. 5-19, 6 cases, 6 deaths.
India: Rangoon, Sept. 12-19, 1 death.
Japan: Kokura, Oct. 1, present; Moji, Sept. 23-29, 15 cases.
Russia: General, Sept. 26-Oct. 3, 3,251 cases, 1,571 deaths.
Straits Settlements: Singapore, Sept. 5-12, 4 deaths.

PLAGUE.

Chile: Iquique, Oct. 5, 1 case.
Egypt: General, Oct. 7-13, 7 cases, 5 deaths.
India: Rangoon, Sept. 12-19, 5 deaths.
Indo-China: Saigon, Sept. 5-12, 20 cases, 17 deaths.
Peru: General, Sept. 22-28, 21 cases, 12 deaths, Callao, 3 cases; Lima, 4 deaths.

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Nov. 7, 1908.

Patterson, R. U., capt., relieved from duty in command of Co. A, H. C., and ordered to report to commanding general, Army of Cuban Pacification, for assignment to duty.

Talbott, E. M., capt., assigned to duty as a commanding officer, Co. A, H. C., and ordered to proceed to Fort D. A. Russell, Wyo.

Lamson, Theodore, capt., leave of absence extended one month.

Ebert, R. G., lieut.-col., granted leave of absence for ten days.

LaGarde, L. A., lieut.-col., granted leave of absence for one month.

Dutcher, B. H., major, arrived at Plattsburg Barracks, N. Y., for duty.

Le Hardy, J. C., M. R. C., relieved from temporary duty at Ft. Casey, Wash., and ordered to return to his proper station, Ft. Lawton, Wash.

Morse, C. F., capt., granted leave of absence for one month, about Nov. 23, 1908.

Foster, D. E., dent.-surg., ordered to his home, Oklahoma City, Okla., for annulment of contract.

Gunckel, G. I., dent.-surg., leave of absence extended 15 days.

Hussey, S. W., dent.-surg., ordered from Fort Sheridan, Ill., to Fort Benjamin Harrison, Ind., for temporary duty.

Navy Changes.

Changes in the medical corps, U. S. Navy, for the week ending Nov. 7, 1908.

Von Wedekind, L. L., surgeon, detached from the *Alabama* and ordered to the *South Dakota*.

Stepp, J., P. A. surgeon, detached from the *Denver* and ordered home to wait orders.

Debsez, P. T., P. A. surgeon, detached from the *South Dakota* and ordered to the Pacific Fleet, sailing from San Francisco about December 5.

Horton, O. D., surgeon, detached from the Marine Recruiting Station, New York, and ordered to the Naval Recruiting Station, New York.

Boqert, E. S., Jr., surgeon, detached from the Naval Recruiting Station, New York, and ordered to the Marine Recruiting Station, New York.

Bucher, W. H., surgeon, granted sick leave for three months when discharged from treatment at the Naval Hospital, Las Animas, Colo.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

CALIFORNIA: Los Angeles, Dec. 1. Sec'y., Dr. Charles L. Tisdale, Butler Bldg., San Francisco.

DELAWARE: Regular, Dover; Homeopathic, Wilmington, Dec. 8-10. Sec'y. of Medical Council, Dr. Henry W. Briggs, Wilmington.

IOWA: Capitol Building, Des Moines, Dec. 8-10. Sec'y., Dr. Louis A. Thomas.

MARYLAND: Baltimore, Dec. 8. Sec'y., Dr. J. McPherson Scott, Hagerstown.

MISSOURI: Kansas City, Nov. 23-25. Sec'y., Dr. J. A. B. Adcock, Warrensburg.

NEW HAMPSHIRE: Concord, Dec. 29-30. Regent, Mr. H. C. Morrison.

OHIO: Columbus, Dec. 8-10. Sec'y. Dr. George H. Matson.

PENNSYLVANIA: Musical Fund Hall, Locust St., Philadelphia, Dec. 1-4. Sec'y. of Medical Council, Dr. N. C. Schaeffer, Harrisburg.

VIRGINIA: Lynchburg, Dec. 15-18. Sec'y., Dr. R. S. Martin, Stuart.

Diploma Mills in India.

The *British Medical Journal*, Oct. 3, 1908, states that several diploma mills are flourishing in India. They are said to exist in Calcutta, Lahore, Dacca and Bombay. State examining boards will do well to scrutinize carefully the credentials of any applicants from that quarter.

Texas June Report.

Dr. G. B. Foscue, secretary of the Texas State Board of Medical Examiners, reports the written examination held at Waco, June 30 to July 2, 1908. The number of subjects examined in was 12; total number of questions asked, 112; percentage required to pass, 75. *The total number of candidates examined was 105, of whom 83 passed and 22 failed. The following colleges were represented:*

PASSED.

College.	Year Grad.	Per Cent.
Medical Coll. of Alabama	(1893)	87.5
University of Arkansas	(1908)	82.6
George Washington Univ	(1907)	88
Kansas Med. Coll	(1904) 90.7; (1908)	81.4
Eclectic Med. Univ., Kansas City	(1908)	82.6
University of Louisville	(1890)	83.2
Tulane University of Louisiana	(1908) 83.5, 84.4, 86, 86.9,	87.5, 87.6, 89.3, 89.5, 90.2, 92.7.
Rush Med. Coll	(1893)	85
Coll. of P. and S., Baltimore	(1906)	83
University of Michigan	(1908)	87.6
St. Louis Coll. of P. and S.	(1904) 82.7; (1908) 78.2, 79.7,	85.5
Barnes Med. Coll	(1907)	80.5
Kansas City Med. Coll	(1905)	85
University of Buffalo	(1903)	89
North Carolina Med. Coll	(1906)	75
University of Pennsylvania	(1899) 94.2; (1906) 82.9; (1908)	84.7
Willamette University	(1908)	82.7
Jefferson Med. Coll	(1901) 87.2; (1907)	79
Memphis Hosp. Med. Coll	(1908) 75, 76.5, 78.4,	81.7
Vanderbilt University	(1894) 91.3; (1898)	76
Meharry Med. Coll	(1907) 85.7; (1908) 75,	76.3
University of Tennessee	(1895) 85.9; (1908)	81.8
University of Nashville,	(1905) 78.9; (1907) 76.9, 88.5; (1908)	79.7.
Chattanooga Med. Coll	(1908)	81.4
Ft. Worth University	(1905) 84.2; (1908) 86.4,	86.4
Baylor University	(1907) 95.4; (1908) 78.4, 78.9, 81.5,	86.6
University of Texas,	(1903) 90.9; (1905) 84.1; (1906) 89.8; (1907) 85.8, 87.6, 90.6, 90.6; (1908) 85.6, 86.1, 86.6, 87.4,	87.6, 88.6, 89.7, 90.4, 90.7, 91.1, 91.4, 92.1, 92.5, 92.8.
Southwestern Univ. Med. Coll., Dallas,	(1905) 87.5; (1908)	79.9, 82.1, 90.5.

FAILED.

College.	Year Grad.	Per Cent.
University of Arkansas	(1901)	61.5
Hospital Coll. of Med., Louisville	(1904)	70.8
Tulane University of Louisiana	(1904)*	
St. Louis College of P. and S.	(1888)	56.9
Meharry Med. Coll	(1908) 63.1, 64.9, 67.8, 71.3,	72.9
Knoxville Med. Coll	(1908)	69.2
University of Nashville	(1907)	67.8
University of the South	(1907)	60.2
Memphis Hospital Med. Coll	(1900)* (1908) 57.8, 67.4,	72.8
Chattanooga Med. Coll	(1905)	72.2
University of Tennessee	(1888) 68.8; (1907)	68
Southwestern Univ. Med. Coll., Dallas	(1908)	72.1
Dallas Med. Coll	(1903) 45.5, (—)*	

* Did not complete examination.

Maine July Report.

Dr. W. J. Maybury, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Augusta, July 7-8, 1908. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 72, of whom 67 passed and 5 failed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Kentucky School of Med.	(1906)	85.7
Baltimore Med. Coll.	(1905) 83.7; (1906) 83.8; (1907) 77.2; (1908)	83.6, 84.6.
College of P. and S., Baltimore	(1908)	87.2, 87.4
Medical School of Maine	(1908)	75.2, 75.9, 77.9, 79, 79.2, 80.1, 80.9, 82.1, 82.1, 82.3, 83.9, 84, 84.4, 84.6, 84.8, 86.4, 86.5, 86.6, 87, 88.8, 89.3, 90.3.
Tufts College Med. School	(1905) 88.6; (1907) 87.5; (1908)	83.2, 83.7, 84.1, 85.6, 85.7, 87.4, 88.4.
Boston University	(1908)	82.4, 83.9, 84.9, 88.4, 89.4
College of P. and S., Boston	(1906) 75.9; (1907) 83.6; (1908)	78.7, 80.3, 84.4, 85.8.
College of P. and S., New York	(1908)	82, 82.5, 83.6
Jefferson Med. Coll.	(1908)	88.5
Hahnemann Med. Coll., Philadelphia	(1907)	87.6
Woman's Med. Coll. of Pennsylvania	(1906) 88.5; (1908)	89.6
Medico-Chirurgical College, Philadelphia	(1908)	87.4
University of Vermont	(1908)	80.4, 88.8
Laval University, Quebec	(1908)	82.2, 84.2
McGill University, Quebec	(1908)	75.5, 87.6, 88, 88.9, 90.1

FAILED.

College.	Year Grad.	Per Cent.
Medical School of Maine	(1908)	72.8
College of P. and S., Boston	(1908)	68.5, 69.9, 72.1
University of the South	(1905)	75.2*

* Received less than 60 in one branch.

Utah April and July Reports.

Dr. R. W. Fisher, secretary of the Utah State Board of Medical Examiners reports the written examinations held at Salt Lake City, April 6-7 and July 6-7, 1908. The total number of subjects examined in was 22; total number of questions asked, 100; percentage required to pass, 75.

At the examination held April 6-7, the total number of candidates examined was 9, of whom 8 passed and 1 failed. The following colleges were represented:

PASSED

College.	Year Grad.	Per Cent.
College of P. and S., San Francisco	(1907)	83
Denver and Gross Coll. of Med.	(1907)	88
Georgetown University	(1906)	87.7
Northwestern Univ. Med. School	(1907)	84.6
Creighton Med. Coll.	(1907)	87.7
Jefferson Med. Coll.	(1902) 82.8; (1907)	83.9
University of Munich, Germany	(1903)	81.9

FAILED

College.	Year Grad.	Per Cent.
University of Louisville	(1905)	61.7

At the examination held July 6-7, the total number of candidates examined was 8, all of whom passed. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Georgetown University	(1906)	80
Northwestern Univ. Med. School	(1908)	83.6
Rush Med. Coll.	(1895)	77.1
College of P. and S., Baltimore	(1908)	88.7
Washington University	(1905)	86.1
Jefferson Med. College	(1907) 89.7; (1908)	88.8
Medico-Chirurgical College, Philadelphia	(1908)	87

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with
Denver and Gross Coll. of Med.	(1907)	Colorado
Rush Med. Coll.	(1882)	Minnesota
Indiana Med. Coll.	(1888)	Indiana
Kentucky University	(1907)	Missouri
Baltimore Med. Coll.	(1901)	Georgia
Medical Coll. of South Carolina	(1898), (1899)	S. Carolina

North Dakota October Report.

Dr. H. M. Wheeler, secretary of the North Dakota State Board of Medical Examiners, reports the written examination held at Grand Forks, Oct. 6-8, 1908. The number of subjects examined in was 14; total number of questions asked, 85; percentage required to pass, 75. The total number of candidates examined was 12, of whom 10 passed and 2 failed. Five reciprocal licenses were granted at this examination. The following colleges were represented:

PASSED.

College.	Year Grad.	Per Cent.
Northwestern Univ. Med. School	(1908)	77
Bennett Coll. of Ecl. Med. and Surg.	(1908)	89
Keokuk Med. Coll., Coll. of P. and S.	(1908)	76
University of Minnesota	(1904) 91; (1905) 76; (1908)	84
Hamline University	(1908)	76, 82
Kansas City Med. Coll.	(1900)	75
Jefferson Med. Coll.	(1907)	78

FAILED.

College.	Year Grad.	Per Cent.
Hamline University	(1904)* (1907)	71

LICENSED THROUGH RECIPROCITY.

College.	Year Grad.	Reciprocity with
National Med. University	(1905)	Illinois
College of P. and S., Chicago	(1905)	Illinois
Bennett Coll. of Ecl. Med. and Surg.	(1907)	Illinois
Northwestern Univ. Med. School	(1907)	Minnesota
University of Minnesota	(1906)	Minnesota

*Percentage not given.

Miscellany

Mr. Kipling and the Doctors.

At the opening of the medical session October 1 at Middlesex Hospital, London, the address was made by Mr. Rudyard Kipling. His characteristic remarks have occasioned much favorable comment. The London *Spectator* calls it "such a speech as *could only have come from a man of genius*," and says that "the public has read his words with delight."

Mr. Kipling said that the world was divided into two classes, doctors and patients. The patients look on the doctors as non-combatants look on troops fighting in their behalf. Death is bound to win in the long run, but the non-combatants feel that the doctors will make the best terms possible on behalf of the non-combatants. This fight for life is one of the most important things in the world, so those who control this fight must be among the most important people in the world. In times of flood, fire, famine, plague, battle, murder, etc., physicians must report for duty at once and stay on duty until their strength fails.

But if physicians' work is exacting, so are the privileges great. They can pass through the most riotous crowds unmolested; by flying a yellow flag they can turn a center of population into a desert; by flying a Red Cross flag they can turn a desert into a center of population; if necessary, a twenty-ton liner can be stopped in mid-ocean until an operation is completed. On their order houses are pulled down or burned, and they can call on troops to enforce their orders. They are perhaps the only class which dares tell the world facts. The profession of medicine exacts from its practitioners the largest responsibility and the highest death rate in the world, said Mr. Kipling, in conclusion.

From the London *Spectator*, October 10, we quote: "Yes, Mr. Kipling is right; doctors are important people. In action we all acknowedge it. They belong not only to the 'privileged,' but to the 'ruling' classes. 'Doctors' orders' to a great extent govern the world of to-day. In how many departments of life, private and public, are they not supreme? The judge's sentence on the criminal is subject to the verdict of the doctor. Doctors can, and do, give pause not only to ocean steamers, but to the whole machinery of the state. How many cabinet councils have been postponed by a general practitioner? Great projects of reform are based on their evidence, and laws innumerable are made in accordance with their advice and carried out subject to their sanction. In the case of private individuals their rule and governance are no less absolute. Among the poor they have more influence than any one else who comes to them from without. The poor can not always afford to obey them; but the more respectable they are the *more* earnestly do they strive to *do so*. Take any village in the country in which there is an average good doctor; is he not the most quoted man in the parish?

"Think, too, what the men, and still more the women, have learned about health during the last few years. What clergyman but would be glad to have made such strides in teaching? The rich obey their doctors to an extent which is sometimes positively slavish. They live where they are told, and eat (and sometimes even drink) what they are told, and journey off to 'cures' at great distances where they are horribly bored, and send their children to this and that school in the most inconvenient places at the least convenient moments, all in accordance with the doctors' commands. Those who scoff at doctors when they feel well are the first to eat their words in time of illness, just as those persons who maintain a conventional attitude of 'don't care' toward the thought of death are almost always among those who make the most unremitting efforts to keep alive. As things are, it looks as though the influence of the doctors were likely to increase. For health's sake, Mr. Kipling says, men will bear to hear unpleasant truths; and now that mind and body are considered to work mysteriously but certainly on one another, their power will be restricted to no material field. They who have so long been accounted materialists have lately forced on the attention of the world the *mysteries* of physical and mental action and reaction—the fact that while health may produce courage and hope, courage and hope may also produce health. Henceforth their sphere of activities will be widened, will indeed be without limit.

"The strange thing is that these powerful people belong to a profession which offers few prizes, and the members of which are for the most part, judging by the standards of to-day, very badly off. The public accords to them every privilege which can benefit itself; that is the public's way. If we rule out certain great discoverers in the realm of medicine, all the prizes go to the men who can afford to wait for them. The majority, the vast majority, of doctors work all their lives, many of them with all the heroism which Mr. Kipling has depicted, without hope of anything beyond what the ordinary professional man considers a maintenance. Social ambition and money ambition, those great mental stimulants which drive many men to their duty and a few to distraction, have no meaning for the average doctor. Yet do they work less hard?

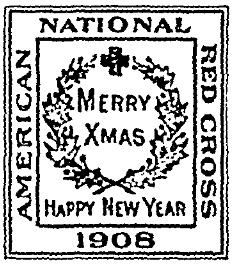
"The highest death rate of any profession in the world! Mr. Kipling's last words have startled, we are sure, the majority of his readers. How often do we hear it said: 'Doctors never catch anything! Doctors never seem to take any harm!' An instant's thought would assure any sensible man that it is a sheer impossibility that they should be more immune than other people. In becoming a doctor a man runs more risk of untimely death in the service of the state than he does in becoming a soldier.

"May they, then, not claim from the world a little of that enthusiasm so readily accorded to their brothers in uniform? Should we not sometimes raise a cheer, in imitation of Mr. Kipling's good example, in honor of the great army in mufti, the thought of whom, as they move among us without the parade of war, so seldom quickens our pulse? Untiringly they protect our homes from those deadly and invisible foes who lurk about the luckiest doors. They bring us hope or sleep in our worst hours of pain or terror, when the door into the unknown stands wide open in front of us, or when we see the fearful reflection of its darkness on the pale faces of our friends. How many of us owe all that makes life worth living to doctors—the courage which comes of health, the companionship which gives value to every day, the lengthened sojourn of the old to whom love, memory, and custom bind us by a threefold cord, or the frail life of a delicate child who embodies every hope and ambition we possess. The doctors see us very often at our worst, and they make the best of us.

"Taking them as a whole, they have a good opinion of their fellows. They risk their lives for ours without the support of that discipline which, we are often assured, will alone induce men to such sacrifice. They keep our secrets without the fearful oath imposed on Roman confessors to strengthen their purpose. If a few black sheep exist among them, if cruelty—that worst curse of the moral nature—is wholly absent from no great congregation of men, if a few trade on the nerves of the community, if a few are tied up in red tape, that is only to say that doctors are human. After all, we may live long lives and come across none of those; whereas it is hard to find a person who owes no debt of gratitude to some doctor or doctors, and who has not known more than one the mainspring of whose existence was benevolence. The public no less than the profession should return thanks to Mr. Kipling. He has done what only a man of literary genius can do—he has heightened and deepened an almost universal sentiment by its strong and gracious expression."

Vanilla Versus Vanillin.—According to the investigations of Consul Julius D. Dreher of Tahiti, Society Islands (*Monthly Consular and Trade Report*, September, 1908), the world's production of vanilla amounts to only 1,221,000 pounds, while there is consumed in France alone vanillin to equal in strength 6,600,000 pounds of vanilla. In consequence of improvements in manufacture, it is now cheaper to use the chemical production (vanillin), which has no vanilla in its composition. The French colonists who produce more than one-half the world's crop of vanilla, ask that the fraudulent use of vanillin be prohibited by law. They appeal to the principle of the U. S. Food and Drugs Act that products should be true to their label, and desire that sellers be prohibited from using for a chemical product the name vanillin. They also ask that a duty be levied on vanillin equivalent to that paid by vanilla, and as vanilla pays 18 cents a pound, vanillin being 100 times more powerful than vanilla, should pay $18 a pound. The present price of vanillin is $3.33 a pound. The United States, while producing no vanilla, are the largest consumers thereof in the world. The vanilla bean is admitted free of duty, while vanillin pays $.80 per ounce, the 1907 imports amounting to only 100 ounces, worth $320.

Christmas Stamps for Tuberculosis Propaganda.—A special Christmas stamp has been issued by the National Red Cross for sale this Christmas season, the proceeds to be applied to antituberculosis work in the state in which the stamp is sold. Designed by Howard Pyle, the stamp is printed in three colors by the Bureau of Engraving and Printing, and the accompanying illustration shows the design. We commented some time ago on the use of such stamps in Sweden and Denmark. A year ago the Red Cross Society of Delaware adopted the scheme and found it a great success. According to *Charities and the Commons* (October 17), the first edition was promptly exhausted, and in eighteen days nearly 40,000 Christmas stamps were sold, profiting nearly $3,000. The stamp astonished, interested and educated the people of the state and all elements of the community loaned their aid to effect the sale with as little expense as possible. The scheme has now been taken up by the National Red Cross and the stamp here illustrated will be on sale in every state this season. The United States postal regulations interfere at present with its being sold in postoffices, as was the case in Denmark.



It can be procured in any quantity from the Red Cross headquarters in any state, or from the central one in Washington, for cash only, at one penny for each stamp. It will not carry mail, but any kind of mail will carry it. "Its educative and inspiring value in Delaware has been found to be great," says the paper above quoted. "'Good Will to Men' was the heading of the posters, all in Christmas red, that announced it. That is the spirit and the message of the Christmas stamp, and that is why the public heart has so responded to it."

Acute Lymphopenic Lymphatic Leukemia.—How little characteristic of a blood disease the blood picture itself may be is illustrated by a case reported by R. S. Lavenson (*Proceedings of the Pathological Society of Philadelphia*, June-July, 1908), for which he coins the name "lymphopenic lymphatic leukemia." The name "lymphatic leukemia" means an excess of lymphocytes in the blood: and this condition usually exists in the disease named from it. In some cases, however, the number of lymphocytes is increased not absolutely, but relatively. In the case reported by Dr. Lavenson there was an absolute diminution, with no relative increase, in the number of lymphocytes. This condition does not allow the case to be placed in any one of Türk's three classes. The autopsy showed numerous lymphocytic deposits in various parts of the body, indicating a great increase in the formation of lymphocytes, although no excess was passed into the blood. Dr. Lavenson supposes that some influence incited the various organs which form lymphocytes to a greatly increased production of lymphocytes, and that at the same time the rate of their extrusion into the blood current was diminished so that there resulted a rapid hypertrophy of the lymphatic structures, but an unusually small number of lymphocytes in the blood. The marked preponderance of ulcerative mouth lesions is regarded by Lavenson as secondary to the lymphocytosis and not as pointing to the portal of entry of the etiologic element. The latter is quite uncertain. Spirochetes, fusiform bacteria, and streptococci were found in the ulcerated areas of the mouth, but probably indicate a secondary infection. Diphtheria bacilli were found in the lung and in one of the mesenteric lymph glands, and their presence, while suggestive, can not be regarded as conclusive.

Marriages

Robert Bruce Berry, M.D., to Miss Lula D. Hamp, both of Baltimore, October 28.

Charles G. Brown, M.D., to Miss Essie L. Meister, both of Mansfield, Ohio, October 7.

Edgar Dismukes Crawford, M.D., to Miss Carol Gray, both of Atlanta, Ga., October 28.

Edward C. S. Taliaferro, M.D., to Miss Alice Serpell, both of Norfolk, Va., November 10.

Joseph Francis Higgins, M.D., to Miss Mary Irene Mulvey, both of Philadelphia, October 28.

George H. Davis, M.D., Warrenton, Va., to Miss Norma Smith of Woodford, Va., October 24.

A. S. Brough, M.D., Elizabethtown, Pa., to Miss Julia Woomer of Lebanon, Pa., October 28.

Robert E. Sevier, M.D., Liberty, Mo., to Mrs. Lena M. Ray of Excelsior Springs, Mo., October 28.

George W. Kehr, M.D., Reading, Pa., to Miss Anna B. Charles of Lancaster, Pa., November 3.

Frank R. Sheppard, M.D., Millville, N. J., to Miss Mae Colquhoun of Brooklyn, N. Y., October 29.

James Edmund Heraty, M.D., to Miss Florence Brady, both of Bloomington, Wis., November 4.

Jesse Lewis Rains, M.D., Grangeville, Idaho, to Miss May Wildenthaler of Lewiston, Idaho, October 21.

William Watson Gailey, M.D., Bloomington, Ill., to Miss Louise Huffaker of Jacksonville, Ill., October 29.

Francis Richard Anthony, M.D., Marysville, Mo., to Miss Eudora Mather of Kansas City, Mo., November 4.

Marland Hooper Eaton, M.D., Wenham, Mass., to Miss Hattie Maude Elliott of Beverly, Mass., October 30.

John Sedgwick Andrews, M.D., Orange, Va., to Miss Margaret Janvier Cooper of New Castle, Del., October 28.

Charles Howard Althammer, M.D., Pittsburg, Pa., to Miss Ada B. Corey of Philadelphia, at Downington, Pa., November 2.

Irving D. Chaney, M.D., Calvert County, Md., to Miss Elizabeth Olivia Talbott, at Hampton, Chaneyville, Calvert County, Md., October 28.

Deaths

Henry Denton Nicoll, M.D. College of Physicians and Surgeons, New York, 1866, a member of the American Medical Association, New York Academy of Medicine and New York Pathological Society; of New York City, surgeon to the Woman's Hospital, consulting surgeon to the Nursery and Children's Hospital, consulting obstetrician to the Lincoln Hospital, and consulting gynecologist to the Presbyterian Hospital and the Home for Incurables; president of the Law and Order Union of the State of New York, died at his home in New Windsor, October 27, aged 64.

William M. Strickler, M.D. Medical College of Virginia, Richmond, 1869, mayor of Colorado Springs in 1888, 1893 and 1894, and once president of the Colorado State Medical Society, assistant surgeon in the Confederate service during the Civil War, physician of El Paso County for several years, in 1884 and 1885 chairman of the finance committee of the city council and president of the council, died at the home of his brother in Denver, October 26, from the effects of an accidental overdose of morphin, aged 70.

Alonzo Brayton Ball, M.D. College of Physicians and Surgeons, New York City, 1863; of New York City; a member of the Medical Society of the State of New York, Association of American Physicians, and New York Academy of Medicine, consulting physician to St. Luke's, the General Memorial and New York hospitals, at one time professor of clinical medicine in Columbia University, died in Boston, October 24, from pneumonia, aged 68.

Samuel T. Davis, M.D. Long Island College Hospital, Brooklyn, 1865, a member of the Medical Society of the State of Pennsylvania; formerly president of Lancaster City, Lancaster County and Lancaster Pathological societies and of the State Board of Health, a member of the American Public Health Association, and surgeon to St. Joseph's Hospital, Lancaster, died October 23, near Colonia Pacheco, Mexico, while on a shooting expedition, from heart disease, aged 71.

Shirley Bragg, M.D. Medical College of Alabama, Mobile, 1875, a member of the Medical Association of the State of Alabama, state jail, almshouse and cotton mill inspector, and president of the state board of convict inspectors, a well known sanitary expert, was found dead in his room in Montgomery, October 29, from a gunshot wound supposed to have been self inflicted with suicidal intent, aged 54.

John H. Purnell, M.D. Memphis (Tenn.) Hospital Medical College, 1882, of Vicksburg, Miss., assistant to the president of the Memphis board of health in 1878 and 1879, state health officer of Mississippi and later in the Marine Hospital Service in Mexico and Panama, where he served as health officer of the city of Panama for several years, died in Shreveport, La., October 26, from chronic nephritis, aged 49.

Waldemar Frederic Bille, M.D. University of Copenhagen, Denmark, 1859, surgeon in the Danish navy from 1859-1862, sent by his government as a naval observer during the Civil War and on duty on the U. S. S. *Hartford* at the taking of New Orleans, surgeon of chasseurs d'Afrique, during the Franco-German war, died at his home in New Orleans, October 27, aged 73.

John Franklin Burns, M.D. Cooper Medical College, San Francisco, 1883, a member of the Medical Society of the State of California, formerly president of the Fresno and Santa Clara county medical societies, and president of the board of trustees of Selma, Cal., health officer of San José, died at his home in San José, October 26, from nephritis, aged 50.

J. LaRoche Wilson, M.D. Medical College of the State of South Carolina, Charleston, 1898, a member of the American Medical Association, a member of the board of commissioners of the city hospital of Charleston, S. C., a member of the city council, and a trustee of the high school, died at the home of his father in Meggett's, S. C., October 27, aged 34.

Marx Block, M.D. Chicago Medical College, 1865, assistant surgeon of the Fourteenth U. S. Infantry during the Civil War, for a number of years a member of the school board and president of the board of education, died at his home in Chattanooga, October 17, from enlargement of the spleen, aged 76.

Francis Fullam Parker, M.D. Harvard Medical School, Boston, 1869, a member of the Massachusetts Medical Society; for one year city physician and for three years school committeeman of Chicopee, Mass., died at his home in that city, October 29, from cancer of the liver, aged 67.

Joseph Thomas Callahan, M.D. Harvard Medical School, 1899, formerly in the Public Health and Marine Hospital Service, in 1903 city physician of Woburn, Mass., a lecturer in Harvard Medical School, died in the Massachusetts General Hospital, Boston, October 29, from nephritis, aged 35.

Thomas Gregory Walsh, M.D. Rush Medical College, Chicago, 1887, a member of the medical staff of the Emergency and St. Mary's hospitals, Milwaukee, attending physician to St. Vincent's Infant Asylum, died at his home, October 25, from nephritis, aged 47.

Jacob D. Haynie, M.D. Cincinnati College of Medicine and Surgery, 1878, chief of the medical staff of the Richmond division of the Pennsylvania system, died at his home in Richmond, Ind., October 29, from the effects of a fall down a stairway, aged 56.

Harrison W. Dorsett, M.D. Jefferson Medical College, Pa., for more than forty years a practitioner of Bethany, N. C.; a member of the Medical Society of the State of North Carolina, died at his home in Bethany, October 21, from pneumonia, aged 68.

Henry Augustus Weymouth, M.D. Vermont Medical College, Woodstock, 1843, a member of the American Medical Association, for sixty-five years a practitioner of Andover, N. H., died at his home in that place, October 22, from bronchitis, aged 88.

William Field Wood, M.D. Queen's University, Kingston, Ont., 1891, a member of the American Medical Association, formerly president of the Mishawaka (Ind.) Physicians' Club; died at his home in Mishawaka, October 20, from tuberculosis, aged 41.

William J. Murphy, M.D. University of California, San Francisco, 1901, surgeon of the Pacific Mail Steamship Com pany's steamer, *San Juan;* committed suicide, while despondent, by cutting his throat, on a voyage to Central America, April 11.

Melvin E. Kepner, M.D. Missouri Medical College, St. Louis, 1899; a member of the American Medical Association; and vice-president of the Effingham County (Ill.) Medical Society; died at his home in La Clede, November 2, from septicemia, following erysipelas, aged 37.

Ralph C. James, M.D. University of Minnesota, Minneapolis, 1905; a member of the Minnesota State Medical Association; house physician of Rood Hospital, Hibbing, Minn.; died in that institution, October 29, from ptomain poisoning, aged 27.

David Donald Duggan, M.D. Trinity Medical College, Toronto, 1895; for sometime assistant surgeon of the Children's Hospital, Toronto; died at his home in Battle Creek, Mich., November 2, from paralysis, aged 39.

James Thornton Matson, M.D. Missouri Medical College, 1849; one of the three surviving members of the Missouri Constitutional Convention; died at his home near Louisiana, Mo., October 21, from senile debility, aged 87.

William C. Buckley, M.D. Penn Medical University, Philadelphia, 1861; surgeon of the Thirteenth Pennsylvania Reserves during the Civil War; died at his home in Philadelphia, October 25, from arteriosclerosis, aged 74.

George Ward England, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1877; a member of the American Medical Association; died at his home in Valley Falls, Kan., October 28, from carcinoma of the liver.

George S. Darling, M.D. University of Michigan, Ann Arbor; of Tawas City, Mich., 1875; probably the oldest practitioner of Iosco County; died in a hospital in Detroit, October 27, from cancer of the throat.

William Grebe, M.D. University of Pennsylvania, Philadelphia, 1889; a member of the State Medical Association of Texas; died at his home in West Point, October 26, from tuberculosis of the throat, aged 44.

Benjamin Jackson Dismukes, M.D. University of Georgia, Augusta, 1857; surgeon in the Confederate service during the Civil War; died at his home in Union Springs, Ala., September 16, from pneumonia, aged 75.

Richard Lauren McClung, M.D. Tulane University, New Orleans, 1870; a Confederate veteran; secretary of the Cass County, Texas, Medical Society; died suddenly at his home in Atlanta, October 12, aged 68.

Howard Eugene Wilson, M.D. College of Physicians and Surgeons, New York, 1876; of Chester, Mass.; died in a private hospital in Cambridge, September 16, after an operation for intestinal obstruction, aged 55.

Thadeus Patton Bell, M.D. Georgia, 186—; a veteran of the Civil War; formerly of Blue Springs, Mo.; died in the National Military Home, Leavenworth, Kan., October 6, from cerebral hemorrhage, aged 73.

Harry Plympton, M.D. Long Island College Hospital, Brooklyn, 1880; formerly a member of the staff of Kings County Insane Hospital, Brooklyn; died at his home in that city, October 29, aged 51.

Josephine Grant Bell, M.D. Cooper Medical College, San Francisco, 1898; of Bartlett Springs, Cal.; died near that place, October 9, from an accidental gunshot wound of the abdomen, aged 40.

Wellington Williams, M.D. McGill University, Montreal, 1901; surgeon for a railway construction party at Denorwick, Western Ontario; died at that place from typhoid fever, October 24, aged 40.

William Edwin Brown, M.D. University of Louisville, 1861; of Owensboro, Ky.; died at the home of his brother in Philpot, Ky., September 30, from fatty degeneration of the heart, aged 72.

John B. Kohler, M.D. University of Pennsylvania, Philadelphia, 1873; a member of the Medical Society of the State of Pennsylvania; died at his home in New Holland, October 30, aged 57.

Frank L. Lewis, M.D. Rush Medical College, Chicago, 1870; formerly of Green Bay, Wis., and Beatrice, Neb.; died at his home in Fayetteville, Ark., from nephritis, October 30, aged 67.

Benjamin Sylvester Smoot, M.D. University of Nashville, 1857; a Confederate veteran; died at the home of his son, in Anniston, Ala., February 12, from senile debility, aged 74.

James Osgood Adams, M.D. Howard University, Washington, 1885; a member of the Medical Association of the District of Columbia; died at his home in Washington, October 29.

Benjamin F. Rea, M.D. Jefferson Medical College, Philadelphia, 1842; a member of the Medical Society of the State of Alabama; died at his home in Lafayette, July 23, aged 90.

John D. Timmerman, M.D. Eclectic Medical Institute, Cincinnati, 1870; of Leipsic, Ohio; a veteran of the Civil War; died at the home of his daughter in Columbus Grove, Ohio, November 4, aged 69.

Samuel Croft, M.D. University of Pennsylvania, 1863; a clergyman and practitioner of Chambersburg, Pa., died at his home March 12, from paralysis, aged 76.

Charles Wesley Seely, M.D. Eclectic Medical Institute, Cincinnati, 1903; died at his home in Wileyville, W. Va., from an overdose of chloroform, October 29, aged 39.

Charles Van Pelt, M.D. Medical College of Ohio, Cincinnati, 185—; died at his home in Lamar, Mo., October 9, from obstruction of the common duct, aged 80.

Almer L. Sabin, M.D. College of Physicians and Surgeons, Chicago, 1891; of Parkville, Mo.; died November 1, at the Kansas City General Hospital, aged 57.

Joseph Wilson, M.D. Western Reserve University, Cleveland, 1862; died at his home in Youngstown, Ohio, October 27, from cerebral hemorrhage, aged 72.

Thomas Landrum Ballenger, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1891; died at his home in Subligna, Ga., October 1, from fever, aged 50.

Charles William Harwood, M.D. Detroit Medical College; died at his home in Sandwich, Ont., April 6, from pneumonia following typhoid fever, aged 63.

John H. Timken, M.D. Hahnemann Medical College, Chicago, 1877; died at his home in Peoria, from cerebral hemorrhage, November 1, aged 54.

Joel Perry Carlisle, M.D. Tulane University, New Orleans, 1871; a Confederate veteran; died at his home in Cold Springs, Texas, October 25, aged 73.

John Henry C. F. Fisher, M.D. Trinity Medical College, Toronto, 1888; died at his home in Toronto, February 13, from pneumonia, aged 58.

Joseph Anson Bates, M.D. New York University, 1863; died at his home in Baltimore, October 23, from heart disease, aged 70.

Nathaniel M. Johnson, M.D. Memphis (Tenn.) Medical College, 1855; died at his home in Henning, Tenn., October 29.

James A. McNaughton, M.D. Toronto University, 1893; of Los Angeles, Cal.; died in Pasadena, September 12, aged 39.

Robert F. Park, M.D. Louisville Medical College, 1889; died at his home in Waco, Texas, October 21, aged 43.

Society Proceedings

COMING MEETINGS.

American Assn. of Anatomists, Baltimore, Dec. 29-31.
Southern Surgical and Gynec. Assn., St. Louis, Dec. 15-17.
Western Surgical and Gynec. Assn., Minneapolis, Dec. 29-30.

MEDICAL SOCIETY OF VIRGINIA.

Thirty-ninth Annual Meeting, held in Richmond, Oct. 20-23, 1908.

(*Continued from page 1625.*)

Bladder Wounds in Hernia Operations.

Dr. W. B. De Garmo, New York: Accidental wounds of the bladder are increasing in number, due to the greater frequency of operations for radical cure, and are attended by a mortality of 12 per cent. The bladder and femoral and inguinal canals are intimately related, and special attention must be directed to the fact that the most frequent bladder protrusion occurs at the external ring and has no peritoneal covering. Diagnosis before operation is rarely made, but any bladder symptoms, especially if associated with large, indirect inguinal hernia, should place the operator on his guard. The surgeon who is always able to recognize a diverticulum of the bladder when met on the operatng table is fortunate. He should look with suspicion on those protrusions that come out immediately above the pubic bone and well toward the median line, especially if they are covered with a light yellow fat containing blood vessels of large size. Normal bladder wall will seldom be seen, the sacculus most frequently having a thin, membranous appearance. A sound passed per urethram will usually decide; but I favor opening instead, the peritoneal cavity at the internal ring and examining the sac from within the abdomen, as saving time and affording greater certainty of diagnosis. If bladder is recognized, I dispose of it either by carrying it well toward the median line, stitching the prevesical fat to the conjoined tendon, or, preferably, by putting a purse-string suture around the neck of the tumor, inverting it by pushing it into the bladder with the finger, and then tying the suture. It is believed that wounds accidentally made in the bladder wall are best closed by using plain catgut of small size in the submucous coat, avoiding perforation, and closing the muscular coat with silk. Retention of the catheter for 24 or 48 hours, and then catheterization every two hours.

DR. G. B. JOHNSON, Richmond: The occasional operator does a text-book operation, and in an ordinary, recent case, succeeds; but in an old one the structures have so changed that he is at a loss, and much more so if the bladder presents. I don't know any complication that occasions a few moments' greater anxiety than this. If the occasional operator recognizes it he doesn't know what to do with it, and is apt to injure it.

DR. J. W. BOVÉE, Washington, D. C.: I agree with Dr. De Garmo in retaining the catheter for the first 48 hours; but for the next three days I use it every four hours, and then see to it that that patient voids every six hours. Kangaroo tendon and catgut are the safest suture materials, for no permanent material should be used in the bladder.

The Rational Treatment of Indigestion.

DR. DOUGLAS VANDER HOOF, Richmond: Indigestion, in most forms, is one of the most easily cured of all conditions affecting mankind. It is not generally so regarded because the common mistake is made of treating the stomach and not the patient. The first thing to consider is that we are called on to treat a symptom and not a disease; to be successful, however, we must not treat the symptom as such, but eradicate the underlying cause. Few real affections of the stomach exist. Excluding rare conditions and the gastric symptoms of various toxemias, there remain only ulcer, cancer and the functional disorders. The last are either reflex in nature or associated with a general or localized neurosis. Most important causes of reflex indigestion are cholelithiasis, chronic appendicitis, errors of refraction associated with eye-strain, and, in women, pelvic disease. It is the worry produced by the indigestion that increases the indigestion; and the physician, by explaining to the patient the real nature of the affection, can remove this second cause of worry and so break up the vicious circle. Eructation of gas is rarely due to fermentation. The stomach, because of its loss of tone, is really distended with atmospheric air and the condition is a modified form of aerophagia. Palpitation of the heart is not due to pressure of the distended stomach, but to the same loss of nerve (vagus) tone that causes relaxation of the stomach walls.

Patients with gastric neurosis must be told that they have no organic trouble, and that their indigestion is absolutely curable. The cause of their symptoms must be explained to them, and they should be made to realize that it is not what one eats that gives him indigestion, but the state of his stomach-nerves at the time the meal is taken. The diet should not be restricted but, rather, forced. Drugs occupy a minor place in the treatment of functional gastric disorders, and gastric lavage is rarely indicated. Most remedies that are given for indigestion have one virtue, in that they are, for the most part, harmless, and this well applies to the ferments. Simple bitters are probably of service, and whatever medication is administered should be directed toward improving the general nervous tone.

DISCUSSION.

DR. J. S. DAVIS, Charlottesville: It is as important to rest before as after meals. In some cases of slight enteroptosis a binder is of much effect in taking the mind off the case.

DR. C. M. HAZEN, Richmond: There is no objection to making a careful stomach diagnosis and then a careful nerve diagnosis; but even after these the condition must be attributed to the cord or other organs. The stomach has its own nerve supply, and like the intestines, and with them, can almost manage itself without factors; but, in addition, there is another supply, and in disease the question arises which set is involved. Fortunately, a treatment of neurasthenia will also benefit other conditions, whether motor, secretory, vaso-motor, or what not. As to gastroptosis, which is due to loss of tone of the spinal cord, what is the use of employing a crutch when other means are at hand for direct treatment?

Necessity for Diagnosis as a Preliminary Step to Gynecologic Operations.

DR. CHARLES R. ROBINS, Richmond: Gynecologic science suffers from the ease with which many of its procedures may be carried out, thus leading many who have not equipped themselves to properly diagnose their cases to attempt operations. Even the slightest operation should be preceded by a complete examination and thorough diagnosis, as, otherwise, symptoms may be mistaken for disease with embarrassing and perhaps fatal results. Accurate gynecologic diagnosis is the exception and not the rule, due to a variety of causes—lack of sufficient opportunity to acquire dexterity; the natural difficulty of the subject, owing to the fact that differentiation has to be made between pelvic conditions and others which simulate them very closely; and also because women are so much influenced by their nervous and emotional organism as to frequently make their symptoms misleading. Some years of study of women from the view point of the general practitioner are essential to a proper appreciation and estimation of the nature of their maladies. The most difficult cases are those in which pelvic lesions exist, but symptoms are due to other causes.

A specialty hinges on diagnosis, and a plea is made that more men should regard this as a specialty and equip themselves for accurate diagnosis, thus avoiding operative errors.

DISCUSSION.

DR. J. W. BOVÉE, Washington: General surgeons have largely taken up gynecology as a part of the practice of general surgery. When a diagnosis has been made it is well to find the etiologic factors and treat them. The cases are by no means rare in which curettage has been done under the mistaken diagnosis of incomplete abortion, the condition later being found to be ectopic gestation with rupture, the patient objecting to removal.

Some Obstetric Experiences.

DR. W. E. ANDERSON, Farmville: I wish merely to report the following cases because of their comparative rarity: Hydatiform moles, an eighth month child born with pustules of smallpox. Shoulder presentation, evisceration being followed by version and delivery, mother dying two years later in a similar birth. Congenital hydrocephalus, the mother having previously given birth to a child with spina bifida, had two postpartum hemorrhages and one breech presentation. The use of forceps in normal labors is becoming too fashionable and should be condemned. Much of the trouble of labor could be avoided by proper attention given beforehand.

DISCUSSION.

DR. J. F. WINN, Richmond: While all cases of toxemia of pregnancy are not preventable, a large number of them is. I impress on the woman the importance of bringing to me a certain quantity of urine on a certain day, just as soon as she is certain that she is pregnant. As soon as I am engaged for a case I give the patient printed directions as to hygiene, diet, bowels, care of the nipples, etc.; and on the back of the paper are named certain symptoms the existence of which is to be reported to me as soon as observed.

DR. GEORGE ROSS, Richmond: I do not think it wise to have a woman concentrate her attention to such an extent as advised by Dr. Winn, though, in general, I agree with him. Meddlesome midwifery is to be condemned. For the past twenty years I have used chloroform in every one of my cases of labor.

DR. G. T. HARRISON, New York: No man is a competent, modern obstetrician unless he is a surgeon. It is most important to know when to use forceps and when not to use them. They should not be used when the head is fixed in the pelvis as in postoccipital cases, nor when the head is high. It is a mistake to use high forceps. When version is indicated forceps are contraindicated, and when the time for version is past it is too late for forceps.

Dr. W. F. Creasey, Newport News: I delivered with high forceps a woman with puerperal convulsions and in the pustular stage of smallpox. The child had the pustular eruption, and both it and the mother are living.

Potassium Bicarbonate and Hyoscin Hydrobromid in Influenza.

Dr. Stephen Harnsberger, Catlett: The patient is to be put to bed and kept there through convalescence or longer. Give calomel to full cleaning out of the gastrointestinal tract. Then the way is open to the best action of potassium bicarbonate. Thirty to sixty grains are to be given in dilute solution every four hours, each dose being followed by from one-half to a glass of water. Require absolute abstinence from food for forty-eight hours. For the *intense pain in the temples*, forehead, eyeballs, etc., give hyoscin hydrobromid or morphin and atropin hypodermically.

Potassium bicarbonate prevents complications, and as the *fatalities of influenza* are due to these, mortality is lessened. This fact is borne out in its use in every epidemic of influenza since 1889. I have never had pneumonia succeed the disease when directions were followed. Potassium bicarbonate not only aborts but will establish resistance in persons subject to colds. Fresh air, baths, mouth, nose and ear hygiene should have concomitant consideration.

(To be continued.)

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Thirty-fourth Annual Meeting, held at Louisville, Ky., Oct. 13-15, 1908.

(Continued from page 1634.)

SYMPOSIUM ON DISEASES OF THE PANCREAS.

Etiology and Pathogenesis of Pancreatitis.

Dr. William D. Haggard, Nashville, Tenn.: Gallstones are etiologically associated with pancreatitis in nearly one-half of the cases. Anatomic peculiarities and variations of the terminal pancreatic ducts are the determining factors in the occurrence of pancreatitis in some cases of gallstones and not in others. Lodgment of a stone in the ampulla of Vater temporarily or permanently (Opie) causes acute hemorrhagic pancreatitis. The chronic indurative or interstitial type is caused by stones lodged, resident, or escaping through the common duct. Bacterial invasion is secondary to some unphysiologic or mechanical internal injury. Infection of the pancreas by the lymphatics in cholecystitis is probably a more frequent avenue than by continuity. Gastroduodenitis appears to be responsible for about one-third of the cases. Catarrhal jaundice is probably caused by inflammatory swelling of the head of the pancreas, compressing the common duct of the liver, in many instances. Mumps causes about 10 per cent. of the cases of pancreatitis, and other infections may likewise cause it by metastases. Fat necrosis with acute hemorrhagic pancreatitis is caused by injury of the gland cells, access of bile or enterokinase which activates the hemolytic property of pancreatic juice.

Diagnosis of Pancreatitis.

Dr. A. J. Ochsner, Chicago: There is an area of tenderness on deep pressure over the upper portion of the right rectus abdominis muscle to the right of Robson's point in pancreatitis complicating cholecystitis. This area is not so circumscribed as Robson's point and corresponds nearly with the area of tenderness in duodenal ulcer. There should be continued, careful examination of the pancreas in all surgery of the upper portion of the abdominal cavity in order to obtain reliable statistics.

Dr. J. Henry Schroeder, *Cincinnati, Ohio*, discussed the physiology and chemical pathology of the pancreas in pancreatitis.

Pancreatic Diabetes and Its Relation to Gallstones.

Dr. Alfred C. Croftan, Chicago: The interrelationship existing between gallstone disease and pancreatic diabetes is important clinically, for three reasons: First, cases of *persistent*, usually very intractable, glycosuria occur that run their course under the guise of an idiopathic diabetes mellitus, but are in reality due to gallstone factors; second, cases occur which present all the essential clinical features of cholelithiasis, accompanied by continuous or intermittent glycosuria, are in reality cases of chronic pancreatitis and not of gallstone disease; third, because the two disorders occur together much more often than is generally assumed and produce a complicated disease-picture that is confusing and commonly misinterpreted. The identification of a glycosuria as due to pancreatic diabetes is uncertain, because it implies the hazardous diagnosis of pancreatitis, which is especially difficult when gallstone disease complicates glycosuria. Pancreatic diabetes (glycosuria) is a much more *common symptom* in acute pancreatitis, and at the onset of pancreatic disease, especially when associated with cholelithiasis, than in later stages. In individuals with a diabetic heredity glycosuria is apt to occur in even slight pancreatic involvement, and occasionally administration of a diabetic test meal demonstrates reduced tolerance for carbohydrates.

In interpreting the occurrence together of pancreatic diabetes and gallstones, three possibilities are to be considered: (1) The gallstones may precede the pancreatitis; (2) the disorder about the pancreas may be the cause of the gallstone formation; (3) both the gallstones and the pancreatic diabetes may be due to some common cause acting simultaneously on the liver and the pancreas.

The medical treatment of pancreatic diabetes, especially when complicated with cholelithiasis, is unsatisfactory. *Exploratory laparotomy in any suspicious case is almost invariably* indicated.

Surgical Treatment of Pancreatitis.

Dr. W. J. Mayo, Rochester, Minn.: Immediate operation offers the best prospect of cure in acute hemorrhagic pancreatitis. While the mortality is exceedingly high, it is not prohibitive. If operated on early, a swollen pancreas will be found which should be incised in several situations, and free drainage furnished. Fat necrosis is not necessarily a fatal condition. I have operated on a number of such patients in the convalescent stage. Localized septic accumulations in the pancreas should be opened and drained. Gallstones should be removed and biliary drainage furnished. The surgical treatment of subacute pancreatitis presents a more favorable field. The fundamental principle of surgical treatment of chronic pancreatitis consists in relieving the common duct of as much of its bile-carrying function as possible. In 62 per cent. of cases jaundice will be present because the common duct runs through the head of the pancreas. In 38 per cent the common duct lies behind the pancreas, but will usually be found more or less dilated, often without jaundice, *in all cases* of chronic pancreatitis. In the majority of cases gallstones in the gall bladder or bile ducts are the direct cause *of* the chronic pancreatitis. With gallstones in the common duct, 84 per cent. of patients will have a contracted *gall bladder*, the result of gallstone irritation. When the chronic pancreatitis is not the result of calculi, the gall *bladder* will usually be distended. Chronic pancreatitis when caused by gallstones will usually be cured by removal of the *stone*, and temporary bile drainage. When not caused by stones, cholecystenterostomy is indicated. The gall *bladder has two* important functions: First, the secretion of mucus, which renders the bile less irritating; second, the relief of *tension* in the common duct. Both tend to prevent pancreatic complications.

Discussion on Pancreatic Diseases.

Dr. G. W. McCaskey, Fort Wayne, Ind.: To American medicine is due the credit for the most important fundamental advances that have been made *in* connection with this subject. The relation of gallstone disease to pancreatitis has been clearly demonstrated, and we *should* remember that it is not necessary for a gallstone to reach the ampulla of

Vater and block up its duodenal orifice in order to produce this disease. Anatomic studies have shown that in fully 62 per cent. of cases of all individuals the common duct was more or less firmly embraced by the pancreas.' It is obvious that a calculus in passing through the common duct in its intrapancreatic portion may press on the pancreatic duct, thus producing stasis of pancreatic secretion and leading secondarily to chronic pancreatitis.

Dr. W. H. Wathen, Louisville: It is a question whether pancreatitis is always the result of an infection ascending from the duodenum or through the blood, or whether it comes down secondarily from the gall bladder. The treatment, however, is practically the same, and that is drainage, the best method of which in the chronic forms of the disease is through the biliary ducts, either by cholecystostomy, which will cure many of these cases, whether there be gallstones or not, or by cholecystenterostomy, when complications do not contraindicate that procedure, preferably with duodenum, next with the jejunum, as high up as is consistent with good surgery, and finally unfortunately it has been made with the colon, where we lose all the digestive properties of the secretion. I should advocate in these cases operative procedure, drainage by cholecystostomy, or drainage by cholecystenterostomy into the duodenum or jejunum.

Dr. G. Dock, New Orleans, La.: It was pointed out some years ago, and has been noticed by many observers since then, that certain cases of acute inflammation of the adrenals produced the same symptoms as acute pancreatitis, or as those which occur in acute irritation of the peritoneum. Lavenson has reported an interesting case in which a patient had chronic pancreatitis and acute hemorrhagic degeneration of the adrenals.

Dr. D. N. Eisendrath, Chicago: I wish to emphasize the frequency with which we have apparently primary pancreatitis. These cases are secondary to infections from the intestine, but are primary, so far as any gallstones are concerned, in the pancreas. We have been accustomed in the past to think of cases of persistent and intense jaundice as being due to malignant disease at the head of the pancreas or to stones in the common duct, or some similar condition obstructing the common duct. We have come to recognize that there is a so-called primary icterus which is due to inflammation of the pancreas, resulting in such proliferation of connective tissue around the orifice, or close to the orifice of the common duct into the duodenum, that there is persistent jaundice, and this jaundice will not be relieved by cholecystostomy. These are the cases in which a cholecystenterostomy or a cholecystjejunostomy is the only operation which will give relief, provided it is possible.

Dr. N. Rosewater, Cleveland: I had a case of chronic interstitial pancreatitis that came to autopsy several years ago. In this case we found a dozen gallstones. The patient was a woman of 63; she had never had icterus; she had no pain. There were no symptoms which would lead one to make a diagnosis of either gallstones or involvement of the pancreas. Only one of numerous consultants suggested malignant disease of the pancreas. I observed the patient for a considerable time. Suddenly she was taken with complete deafness. I attributed this to gastrointestinal disturbance. I gave her a cathartic, but within a few hours she also developed a peculiar condition of the tongue. She could hardly utter a word, though there was not complete paralysis. She could stick the tongue out, but it would not go to either side. Consultants in the case were divided as to whether there was apoplexy or not. But this condition cleared up. No stomach pump was used on account of the fact that we were dealing with possible apoplexy. The woman vomited; the contents of the stomach were examined and found to contain no gastric juice, so that we were dealing with an achylia. At autopsy we found a number of gallstones, chronic interstitial pancreatitis, and general arteriosclerosis.

Dr. J. H. Carstens, Detroit: Gallstones are not so frequent as ordinarily supposed. For the last few years I have examined every single patient on whom I have done laparotomy for gallstones, and of 500 operations I have found only 2 in which gallstones existed.

(To be continued.)

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington, D. C., Sept. 28 to Oct. 3, 1908.

(Continued from page 1629.)

SECTION V.—HYGIENIC, SOCIAL, INDUSTRIAL AND ECONOMIC ASPECTS OF TUBERCULOSIS.

President, Mr. Edward T. Devine, New York; secretaries, Mr. Alexander M. Wilson, Chicago, and Miss Lillian Brandt, New York.

Cost of Tuberculosis in the United States and Its Reduction.

Professor Irving Fisher, New Haven, Conn.: The death rate from tuberculosis in all its forms in the United States is estimated at 164 per 100,000 of population, and the number of deaths in 1906 at 138,000. At this rate, of those now living in the United States, 5,000,000 people will die of tuberculosis. The average age at death for males is 37.6 years; for females, 33.4 years. The "expectation of life" lost (though estimated on a specially high mortality rate) is at least 24 years, of which at least 17 fall in the working period. The average period of disability preceding death from tuberculosis exceeds three years, of which the latter half is a period of total disability. The money cost of tuberculosis, including capitalized earning power lost by death, exceeds $8,000 per death. The total cost in the United States exceeds $1,100,000,000 per annum. Of this cost about two-fifths, or over $440,000,000 per annum, falls on others than the consumptive. An effort to reduce the mortality by one-fourth would be worth, if necessary, an investment of $5,500,000,000. The cost of treating patients at sanatoria is repaid many times over in lengthened working lives. The erection of isolation hospitals for incurables is probably the most profitable method at present of reducing the cost of tuberculosis.

Relation Between Tuberculosis and Mental Defect.

Dr. Martin W. Barr, Elwyn, Pa.: The assertion that tuberculosis is a potent factor in the production of mental degeneracy, as well as of physical, finds confirmation in a comparison of two etiologic tables compiled from the studies of over 6,000 cases made, the one in England and the other in America; the former placing it second, the latter third, in an enumeration of causes. The opinion, thus reached, is further verified in the statistics of various asylums where family history reveals tuberculosis trouble as cause, either singly or associated with other fateful heredities. Similarly, death statistics gathered in America, in the British Isles, and on the Continent of Europe, show a ratio varying according to location and association from 15 to 75 per cent. The prudential motives governing the isolation of tuberculosis in institutions, and the equal necessity for the sequestration and perpetual safeguarding of imbeciles of whatever grade, should be emphasized in this connection; as, incapable of judgment in the matter of self-care, and ignorant or regardless of consequences, these unfortunates can not but prove a double menace to society as active agents, however involuntary, in the dissemination or procreation of tuberculosis. That the tendency of both these forms of degeneration is to deorganize and to lower the entire tone of the whose system so as to minimize resisting power is patent to the most casual observer. Naturally, any close association of such conditions must insure to its victim a certainty of one evil or the other or, as is frequently the case, a mingling of the two; thus the tuberculous patient may lapse into idiocy or the imbecile meet death from tuberculous trouble.

Legitimate Exercise of Police Power for the Protection of Health.

Dr. Henry B. Favill, Chicago: Measures of regulation of industrial affairs in behalf of the laborers inevitably carry with them much of the controversy between capital and labor and are difficult to institute. It is becoming generally accepted that health is the essential factor in productiveness and prosperity, and hence in the advancement of civilization. It follows, therefore, that the state in pursuit of its primary function must take cognizance of fundamental necessities. The conditions under which labor shall be performed as related to health become matters of primary interest to the state, and on that basis should be the subjects of decisive, mandatory legislation. Inasmuch as all legislation is subject to judicial review as to what is constitutional, regard should be paid to the trend of judicial opinion. Thus far, three things appear as important: (a) That the subject should be clearly a health proposition; (b) that it be general and not class legislation; (c) that the contention be supported by reliable data. Tuberculosis is the most imperative subject before us. Data on this subject are meager and must be acquired through systematic research. To accomplish this much "police" cooperation will be necessary. Broadly speaking, the re-education of the masses as to the value of fresh air and the practicability of being subjected to it, is a colossal undertaking, but of fundamental importance. The importance of fresh air as a physiologic stimulus, leading to individual vigor, must be emphasized. Its value as an atmospheric purifier is important though decidedly *secondary*. The readjustment of industrial conditions to an adequate supply and distribution of fresh air is the one great thing to accomplish. The difficulties are so great as to be appalling. The necessities are so clear as to be imperative. Sanitarians and sociologists must combine to accomplish this reform. As it now appears, nothing short of the broadest exercise of police jurisdiction will be effective. Subordinate health law naturally follows.

Relation of Tuberculosis to Crime and the Incarcerated Criminal.

Dr. Julius B. Ransom, New York: The significance of tuberculosis as a factor in crime is not fully determined, though the large percentage of tuberculous individuals in prisons, and the fact that most of these cases come from the infected areas of population, would indicate tuberculosis to be more or less closely allied to crime. The tuberculous prisoner represents one of the greatest physical menaces to the general social order. A realization of this fact and special work in this direction are essential to the well-being of the community at large. The necessity for a law making mandatory the examination of every prisoner admitted to every penal institution is absolute. The history of the tuberculosis work at Clinton Prison illustrates the advantageous results obtainable from the special treatment of the tuberculous incarcerated criminal; statistics covering the past fifteen years show a decrease of 71 per cent. in the tuberculous death rate in the prisons of New York. Many advantages may be derived in the way of research from study of tuberculosis in prisons. The tuberculous penal population offers a most satisfactory opportunity for prolonged experiment and study, and possesses advantages not to be found in any other field.

Pulmonary Tuberculosis Among Printers.

Dr. James Alexander Miller, New York, presented a report based on thorough physical examinations made on 203 printers, members of Typographical Union No. 6, who volunteered for the examination:

The main point in the investigation was not only to determine the extent of pulmonary tuberculosis, but all other diseases were considered both in the history and the physical examination. It was found that almost all the men were young, native-born Americans, earning good wages, and living under good conditions; the majority of them used alcohol and tobacco; 20 per cent. of all used them in excess, and about 20 per cent. were total abstainers. One hundred and twenty-four complained of unfavorable conditions in the shop designated as follows: Poor ventilation, 49; metal fumes from unpiped machines, 27; insanitary water closets, 19; insufficient number or absence of cuspidors, 14; dirty walls and ceilings, 8; metal dust, 5; over-crowded rooms, 7; poor light, 5. The medical history and examination showed that catarrh of the upper air passages was frequent, also dry pleurisy, bronchitis and pulmonary tuberculosis. Pulmonary tuberculosis was present in 34 cases or 17 per cent. of the whole number. My conclusions are that pulmonary tuberculosis is prevalent among printers and is largely due: 1. To unfavorable shop conditions, especially poor ventilation, overcrowding, dust and dirt, promiscuous spitting and poor lighting; 2. to the irregular habits of the printers, especially alcoholism, careless habits of eating, needless exposure to drafts and insufficient outdoor exercise.

(*To be continued.*)

MEDICAL ASSOCIATION OF THE SOUTHWEST.

Third Annual Meeting, held at Kansas City, Mo., Oct. 19-21, 1908.

(*Continued from page 1633.*)

Insanity as the World Sees It.

Dr. C. C. Goddard, Leavenworth, Kan.: There is probably no disease or disturbance of the human economy so little understood by the social and business world as mental disease. To the average man a person is not considered unsound mentally unless he is overwhelmed by some superacute mania or is in a markedly depressed condition of melancholia. The popular idea of an insane individual is that of a person devoid of all sense and appreciation of environment. Many think that the afflicted must even howl, froth at the mouth, and seek to commit homicide; tear their clothing; destroy all articles that are breakable, and fail to recognize relatives and friends, before the world at large will admit, with a sigh, that the poor wretch is insane. People do not seem able to comprehend that a person may be sane in some particulars and insane in others; in fact, that a man may carry on a learned discussion on various topics and be lucid and far-seeing in his deductions, and yet when about to take his departure refuse to shake hands, with the remark: "I can not shake hands with you, for, as you are aware, I am a brass tea-kettle." A man can hardly have such a delusion and still be considered sane. So long as the daily affairs do not intrench on their peculiar hobbies or obsessions, such people may pass muster in any crowd as being perfectly sane, but let such an infringement occur, and then all their acts and talk will show the mental warp. A great deal of the peculiar ideas among the laity is due to the stories by which they are frightened when in childhood, or by ill-advised books that portray the insane character in the atrocious acts of a madman. This misconception, at times, is a stubborn thing to combat, and much injustice to families and friends is imposed because those having these erroneous ideas rapidly imbue others, even juries and judges, with the belief that an injustice is contemplated by those directly concerned, especially should property of any magnitude be involved. It is time that the teacher was abroad in the land, and that overdrawn works of fiction were censured somewhat. The public should realize, if possible, that a man does not have to become idealess, senseless, and a mere automaton to be insane, and therefore a fit subject for restraint and protection both physically and financially.

Normal Salt Solution in Septic Conditions of the Peritoneum.

Dr. J. M. Taylor, Fort Smith, Ark., referred to the antiseptic property of normal salt solution in curing meats, and said that it has likewise a specific antiseptic effect on the peritoneum. He pointed out the efficacy of flushing the peritoneal cavity as shown by reports of cases.

DISCUSSION.

Dr. George M. Gray, Kansas City, Kan.: I do not think we can expect much in the way of antiseptic power from the normal salt solution; 0.75 per cent. salt solution will not give a very active antiseptic. Patients with general peritonitis generally suffer from more or less shock, and manipulation of the intestines, flushing and wiping add to the shock, which may prove fatal. Owing to the bad results obtained by this method of treatment, a few years ago, Dr. Ochsner, of Chicago, advised that no operation be done in these cases, saying that he had obtained better results if he depended on putting his patients in the Fowler position, or on the right side, and waiting until Nature walled off an abscess which could be opened later. Murphy, of Chicago, has undoubtedly obtained the best results of any operator with his method of rapidly opening the abdomen, draining, using no flushing whatever, no wiping of the intestines, removing the appendix in cases where it was at fault, closing any perforation of the intestine, and finally closing the wound without flushing and depending simply on drainage with position, and salt enemas, using a continuous flow of normal salt solution into the bowels.

Dr. Walter B. Dorsett, St. Louis: I am sorry that Dr. Taylor spoke disparagingly about drainage, because I have suffered the consequences of having closed some abdomens when I was in doubt as to whether to drain or not, and I have had cases that I thought were desperate in which I not only put in one drain, but have inserted multiple drains, and have been rewarded by seeing the patients recover.

Dr. E. B. Emory, Winfield, Kan.: I wish to quote the Mayo brothers as saying that we should keep all fluids out of the abdominal cavity in general septic conditions. Since learning this I have adopted their plan and have obtained better results by establishing free drainage at every point possible. By keeping out fluid from the abdominal cavity, using salt solution in the rectum, and establishing free drainage, we give the patient the best chance for recovery.

Dr. Horace Reed, Oklahoma City: Any surgeon who opens the abdomen and handles the small intestine with impunity will almost always get uniformly bad postoperative results. I heard Dr. William J. Mayo state that formerly they had paresis following operations in the abdomen from rough handling or manipulation of the intestines.

Dr. R. M. Schauffler, Kansas City, Mo.: I have had the best results in cases so bad that I have done little beyond simply opening the abdomen and establishing free drainage at one or more points.

Dr. R. V. Smith, Guthrie, Okla.: It is not pus *per se* in the abdomen that kills, but it is pent-up pus or pus under tension, and when this is evacuated by drainage, followed by normal saline solution, one's efforts are likely to be rewarded with success.

Dr. Bacon Saunders, Fort Worth, Tex.: One important point is to do something to these patients before, during or after operation, to keep up blood pressure and to keep up elimination. The results obtained by Dr. Taylor were due more largely, I think, to the quantity of normal salt solution that he left in the peritoneal cavity than to any other one thing. He would have had the same results if he had put it in the patient's vessels, or had put it in the vessels indirectly through the rectum or by subcutaneous diffusion. He diluted the toxins by so doing, then got out of the way, and gave his patients an opportunity to recover by the aid of their normal recuperative powers. That is the great lesson of modern abdominal surgery.

Dr. J. W. McLaughlin, Austin, Tex.: The modern explanation of physical facts is the ionization theory. When one puts salt in water in the percentage spoken of, 0.75 per cent., the salt is separated into ions. It does not remain in the salt. There is the ion of chlorin and the ion of sodium, and this observation leads me to think that possibly the chlorin may have more effect as an antiseptic than we give the salt credit for. Possibly it is the chlorin that has the antiseptic effect.

Dr. J. M. Taylor: I do not claim that the small amount of salt used is an antiseptic. I do not know whether it is or not. I know it did the work in these cases through stimulation. The very presence of normal saline solution in the peritoneal cavity overcomes shock. I know it is against the rules of the medical profession to close up the abdomen in such cases as I have mentioned, but when we introduce drainage in the abdominal cavity or any other foreign body into that cavity, there occurs adhesion of the parts around the drainage tube, thus closing other parts of the cavity. That is what it did in the cases I have referred to, in which I removed a drainage tube, having had total obstruction of the bowels, finding the tube was not communicating with the peritoneal cavity, that pus accumulating in any other part could not get out. I believe it is better to close the abdomen in such cases, after having thoroughly cleansed, and when an abscess or pus forms at any other point, then it will be time to institute drainage.

Arteriosclerosis.

Dr. John T. Clegg, Siloam Springs, Ark.: This disease begins as an inflammatory obstruction of the arterial capillaries, next involving the vaso vasorum, resulting in pathologic changes in the structures of the walls of the vessels, increased blood pressure, failure of nutrition, and all the phenomena the disease manifests. The affection is oftenest found in the aged, but senility is the result and not the cause of the disease. The real cause of the malady is unknown, but it is probably a micro-organism the nature of which has never been observed.

Extrauterine Pregnancy.

Dr. J. H. White, Muskogee, Okla.: I believe as time goes on the deferred operation will be the operation of choice. While there will be cases coming up which demand immediate operation, they will prove rather the exception than the rule. Hemorrhage and shock are the symptoms we most fear, and a short period of observation will tell the experienced surgeon whether waiting will be advantageous or detrimental to the patient. Shock of operation should certainly not be added to the shock of hemorrhage when it is possible to avoid it. Two of my patients were operated on five days after a history of rupture, and another eight days after a history of rupture. While only a small number, they go to increase the list of successful cases treated under deferred operation.

Coexistence of Symptoms of Appendicitis and of Right Kidney and Ureteral Irritation.

Dr. Le Roy Long, McAlester, Okla., reported three cases in which the symptoms of appendicitis and of right kidney irritation coexisted:

The cases reported are selected to show that the symptoms may be present in the three commoner forms of appendicitis: First, inflammation of a moderate type without adhesions, when the symptoms are due to an expression through the nervous system; second, inflammation of a severe type with postcecal adhesions, but without suppuration, when the symptoms are due to involvement of a ureter in the inflammatory process; third, inflammation of a severe type resulting in postcecal adhesions, and subsequent abscess formation, when the symptoms are due to (*a*) involvement of the ureter in the inflammatory process, and (*b*) to perforation of the ureter, a part of the contents of the abscess thus escaping into it.

Chorioepithelioma.

Drs. A. L. Blesh and C. E. Lee, Oklahoma City, contributed a joint paper on this subject, in which they reported a case and drew the following conclusions:

(1.) It is known that when this new growth occurs by metastasis locally within the maternal organs, or metastasis into the fetus, it is through the circulation. (2.) If perverted in the performance of its physiologic function, the chorion will become pathologic for either the mother, or deposit within the fetus a focus for a future fatal new growth. (3). When there exists an excess of syncytium and Nature is unable to accommodate the same, there is then an extreme probability of the same metastasizing. (4.) Owing to the fact that deportation occurs through the circulation, instead of the lymph ducts, this new growth early assumes a rapidly increasing and unfavorable condition for recovery. (5.) Even with an early diagnosis, followed by prompt surgical intervention, one can at best give only a guarded prognosis.

The State's Duty to the Physician.

Dr. A. H. Madry, Aurora, Mo.: The medical profession should deliberate on and advise the state and nation of those sanitary things which are for the professional and public good, and before long there will be left no just grounds for saying that either is not doing its duty to the profession because the mutual benefit to come from such a relationship will have become one of its most highly valued assets.

The Therapeutic Renaissance.

Dr. Charles W. Fisk, Kingfisher, Okla.: This generation has seen marvelous advancement in the science of medicine, and we are only at the threshold of still greater and more wonderful achievement. In the application of remedies for the cure of disease, in practical therapeutics, whether justly or unjustly, we as a profession stand condemned before the great bar of public opinion. Formerly it was the custom of pharmaceutical houses to send out samples of new drugs to be given a clinical trial by the general practitioner. Each bottle of fluid extract or tincture was plainly labeled with a carefully prepared outline of its probable physiologic action and therapeutic indications for use. As a result, some really valuable additions have been made to our materia medica. The public began to believe that the efficacy of a remedy has no necessary relation to its nauseous taste. There grew a demand for more palatable prescribing. Samples of ready-made combinations began to be supplied, cough syrups, anodyne-diuretics, etc., of elegant appearance, each constructed with more or less reference to a definite physiologic action, thus appealing in a measure to the intelligence of the medical profession.

Gradually a change has come, so gradually that we have scarcely realized how far we have wandered from the way of safety. Without protest, physicians are now sampled by the detail men with specifics for every important disease that is known to the diagnostician. It is an undisputed fact that many physicians who know better are using in their important cases medicines that are compounded by those whose ignorance is equaled only by their audacity. As a natural result of this practice, there appears to be a growing distrust in the efficacy of all medication. The remedies that are pronounced certain in their results and are supported by the testimonials of eminent men are the secret proprietaries.

About three years ago the American Medical Association established its Council on Pharmacy and Chemistry. This Council was instructed to prepare a list of the new and nonofficial remedies for the guidance of the profession. The requirements were reasonable, asking only the exact truth about the remedies and that no extravagant claims be made and no special appeal to the public by printing names of diseases for which the formulæ are recommended. The Association acted wisely. The demand is reasonable and should be insisted on. A refusal to comply with it should be looked on with suspicion.

Necessarily, the work of the Council has been largely destructive, but this destruction must necessarily precede reconstruction. If there is to be a real reform, it is first necessary that we feel a real, pressing need of reformation. When the list of new and nonofficial remedies is completed there must be a still further and more important destructive criticism of the many remedies that have complied with the requirements of the Council. The final result of this movement will be determined by the great body of the medical profession. The responsibility is ours. We owe much to serum therapy, but from its very fountainhead comes the significant statement: "The future of medicine is in pharmacology." Some of the most bitter opponents of rational therapeutics will be found within our own ranks. There are physicians closely connected with business ventures who will be injured if this reform is carried to a successful issue. THE JOURNAL of the American Medical Association needs to carry on its campaign of education. The articles on therapeutics supply a real need. Much more attention should be given in its pages to general medicine and pharmacology until the names of our great clinicians become as familiar as those of our great surgeons.

The great discoveries of the future will not be in the line of new remedies, but in the more perfect knowledge of those we already have. The battle is on. The American Medical Association sounds the call to action and expects every man to do his duty. The struggle is for the uplift of our profession, not only now, but for the future. If we stand shoulder to shoulder, our demand for a more rational therapeutics will be felt to the remotest hamlet of our country, and our noble profession will enter on a new era, purged of the dross that has so long encumbered us.

Tuberculosis of the Bladder.

DR. BRANSFORD LEWIS, St. Louis: Although this disease was formerly believed to be both primary and secondary in its development, vesical tuberculosis is now recognized as practically always secondary, some other organ or part of the body being the original focus. Bladder infection is accomplished in five ways: Through the blood channels, through the lymph channels, by means of the secretions, by continuity, and by contiguity. The local evidences, dependent largely on the stage of the infection. I describe as also the characteristic symptoms and signs, the principal value of which is to attract the attention of the patient and point the way to the investigation that leads to the definite diagnosis at a time when the diagnosis will be of service, that is, in the early period of the disease. Red blood cells in microscopic number in the urine often precede the development of outspoken symptoms many months or years. I do not agree with the current sentiment that urinary tuberculosis means rigid exclusion of instrumentation, either for diagnosis or treatment. The only sure way to differentiate smegma bacilli from tubercle bacilli is to exclude the smegma organisms from the specimens in obtaining the latter. The treatment can be divided into palliative and curative, by means of hygienic, medicinal and operative measures, the latter relating chiefly to the original focus of the infection. Through these means vesical tuberculosis is a curable malady in numerous instances. Locally, iodoform-oil emulsion is a valuable remedy.

Treatment of Cancer of the Rectum, with Remarks on the Curability of Cancer.

DR. ROLLIN H. BARNES, St. Louis: It is surprising how many physicians have the impression that cancer is incurable, and that the only justifiable methods of treatment are palliative. It is not right for the physician to go ahead treating the confident patient by these measures without explaining the character of the disease and the clear facts and possibilities of the different methods of treatment, allowing the patient an opportunity to have a voice in the method to be pursued.

Would we question a cure in considering any other disease, if we were able to present patients who had been well for twenty years without recurrence? It is not only a question of cure, but the prolonging of life and usefulness, which is the great duty of the physician. Too many conditions are dependent on a conclusion as to which are operable cases, and we can not solve this question of operable cases by rule. Experience teaches us to sum up the general conditions and enable us to draw our conclusions as to whether or not the condition is operable. No one who has watched the suffering under palliative measures, the painful stools, especially if the growth is near the anus, the offensive discharges, the hemorrhages, and the offensive odors that are sure to come whether colostomy is performed or not, and compare it to the condition of the patient in which an excision has been performed, would hesitate in his own case as to which he preferred. When one dooms a patient to sure death by palliative measures all hope and ambition are gone and life is gloom. Excision gives a chance for a cure, no matter how little, and stimulates a hope of living which to all is our ambition and makes life worth living. Negligence often means malpractice.

Officers Elected.

The following officers were elected: Dr. Jabez N. Jackson Kansas City, president; Drs. Mahlon A. Kelso, Enid, Okla., Joseph D. Becton, Greeneville, Texas; St. Cloud Cooper, Fort Smith, Ark.; and Middleton L Perry, Parsons, Kan., vice-presidents, and Dr. Fred H. Clark, El Reno, Okla., secretary (re elected).

San Antonio, Texas, was selected as the meeting place for 1909.

Medicolegal

Use of Mortality Tables Not Dependent on Race, Color, Time or Place.

The Supreme Court of Washington says that in the personal injury case of Suell vs. Jones the admission of mortality tables in evidence was objected to on the ground that such tables have no application to negroes, the plaintiff being a negro. But their admission was not error. We know that mortality among males is greater than among females. We know that, as we proceed from the temperate to the torrid zone, mortality increases as we go south; that heat stimulates the vital functions so that maturity is reached earlier and decay commences earlier. We know that food, air, manner, and environment are important factors in prolonging and shortening life. But, notwithstanding these differences, the practice of admitting standard mortality tables in evidence whenever it becomes necessary to estimate the value of annuities, dower, curtesy, or damages for wrongful act has become too well established to admit of question, and the application of the rule governing their admission does not depend on race or color, time or place. Of course, the tables are not binding on the jury. They are competent evidence to assist the jury.

Another State Against Liability for Mere Fright or Shock.

The Supreme Court of Ohio, deciding the question for the first time for that state, holds, in the case of Miller vs. Baltimore and Ohio Southwestern Railroad Company, that no liability exists for acts of negligence causing mere fright or shock, unaccompanied by contemporaneous physical injury, even though subsequent illness results, where the negligent acts complained of are neither willful nor malicious.

Current Medical Literature

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

New York Medical Journal.

October 31.

1 *Origin of Syphilis and the Invention of its Name. J. Knott, Dublin, Ire.
2 Precipitate Reactions with Lecithin, Sodium Glycocholate, and Sodium Taurocholate, and Sodium Taurocholate for the Diagnosis of Syphilis. W. J. Butler and W. T. Mefford, Chicago.
3 Popular Lecture in the Crusade Against Tuberculosis. S. A. Knopf, New York.
4 *Expectant Treatment of Pulmonary Tuberculosis. A. E. Judson, New York.
5 *Family Tuberculosis. W. C. White, Pittsburg, Pa.
6 Six Months' Work in the Brooklyn Hospital Dispensary First Surgical Division. J. E. Blake, Brooklyn.
7 Insufficientia Pylori versus Einhorn's Achylia Gastrica. M. I. Knapp, New York.

1. **Syphilis.**—This is a highly interesting historical article in which Knott gives a history of Fracastorius and his poem on syphilis, and brings a vast mass of evidence to sustain the view that the serious outbreak in the early sixteenth century was probably due to the rejuvenescence of the disease consequent on the inoculation of Columbus' sailors with virus derived from individuals of a remoter race. This would reconcile the evidences of its pre-existence in a modified form with the outbreak of a virulent epidemic.

4. Abstracted in The Journal, November 7, page 1628.

5. **Family Tuberculosis.**—White records in detail the essential facts of a case of family tuberculosis, which may be recapitulated as follows: There developed in 15 months 8 cases of tuberculosis in a family of 9 who had not lived together for 10 years, who were scattered in 6 different homes in 5 different American and Canadian cities. The ages of the victims ranged from 71 to 20 years. There was no known source of infection; they had always lived under the best conditions. Four were diagnosticated by the presence of tubercle bacilli, one by tuberculin, and three by physical signs and symptoms. White made or confirmed the diagnosis in every case. The members of the family were brought up on milk without other beverage save water until they left home. The father consumed large quantities of cream. The mother, who escaped, took very little milk, no cream save in her tea, and very little butter. About the time the family ceased to live together they moved into a new house, and the source of milk was shortly after changed. The symptoms of intestinal distress were common to all patients. They were so marked in two cases that the appendix was removed from each under the supposition that this was at fault. The tubercle bacilli were, in the four cases in which they were found, of similar morphologic structure, that conforming to the bovine type as described by Weber and others; short, thick forms, irregular in outline. Careful inquiry failed to reveal any source of infection of human origin. It is necessary to explain the facts in one of the following ways: All were infected individually in such a way as to render possible the malady making itself evident in each at approximately the same period of time. Far more likely is the other possibility that all were infected with approximately equal doses at approximately the same time from some source other than human. The study of this family has stimulated the suggestion that we too often, perhaps, neglect the questions of dosage of bacilli in tuberculosis and the following incubation period. White is not prepared to lay down any law governing these points, but at the present time he feels convinced that the progress of any case of tuberculosis depends more on the number of bacilli received within a given period than on any other one factor.

Medical Record, New York.

October 31.

8 *Intestinal Infection and Immunity in Tuberculosis. A. Calmette, Lille, France.
9 Myth and Mystery of Ménière's Disease. G. M. Gould, Ithaca, N. Y.
10 *Epileptic Voice Sign. L. P. Clark and E. W. Scripture, New York.
11 What Factors are Necessary in Addition to Asepsis to Secure Healing by Primary Union? R. W. Westbrook, Brooklyn.
12 Leprosy Apparently Cured with the X-Rays. V. G. Heiser, Manila.

8. **Immunity in Tuberculosis.**—Calmette discusses intestinal infection and immunity in tuberculosis, and reports experiments which, he holds, strongly support the statement that, by the intestinal absorption of a weak and single dose of tubercle bacilli very finely divided, one can obtain at the same time the total absorption of the bacilli in the lymphatic system, and a state of immunity such that the animals are insusceptible, during a year at least, to large infections through the digestive tract. Without doubt, it is not a matter of a method of vaccination which one could think of employing in preserving the human race from tuberculosis. It would be rash to consider a definite solution of this sort as very near. But so difficult a study can proceed only by stages.

10. **The Epileptic Voice Sign.**—Clark and Scripture note that there is something peculiar and distinctive in the epileptic voice—an expressionless quality. With a view to analyzing the voice in epileptics, they have applied the newer methods of voice study, and present what they term the "epileptic voice sign" as the result thereof. It consists of the curves made on a rapidly revolving smoked drum when the patient speaks into a mouth piece, connected to a small metal cup covered at the top with thin rubber on which rests a lever, impinging on the smoked drum. Each wave of a record is measured and the pitch calculated. The successive pitches are plotted on millimeter paper and the tops of the ordinates, connected by a line, constitute the "melody plot." The peculiarity in the melody strikes the eye at once. Instead of the continuous rise and fall in melody, the vowels and phrases run along on the even tone. The speech of an epileptic is, in fact, "plateau speech"; that is, his melody proceeds by even steps. The voice sign seems to develop with the disease, the more severe the epilepsy and the longer its duration, the more marked is the voice sign. The sign appears to depend on the underlying brain degeneration, of which the epileptic fits are also an expression. It persists at least several years, even in the absence of fits, showing perhaps that a prolonged absence of fits in epilepsy does not really indicate that a cure has been accomplished. By appropriate exercises epileptics can learn to speak normally.

Boston Medical and Surgical Journal.

October 29.

13 *Fractures of the Os Calcis. F. J. Cotton and L. T. Wilson, Boston.
14 Ethmoid Cells at Birth and Their Development During Fetal Life. E. J. Curran, Bathurst, Australia.
15 *Coincident Tubal and Intrauterine Pregnancy. C. M. Green, Boston.
16 Serum Treatment of Epidemic Cerebrospinal Meningitis. F. T. Fulton, Providence, R. I.
17 *Bursitis Subacromialis, or Periarthritis of the Shoulder-Joint. (Subdeltoid Bursitis.) (Continued.) E. A. Codman, Boston.

13. **Fractures of the Os Calcis.**—Cotton and Wilson consider only that type of fracture of the os calcis due to crushing. What we really need to know in regard to the result of this,

or any other fracture, that can be called approximately a type, is (a) the results as to *function*: (b) when there is loss of function, the *proximate causes* of such loss, whether from deformity, limitation of motion, weakness, or what not; (c) how do the cases that result badly differ from the more fortunate ones in lesion or in treatment; (d) what can be done to avoid bad results; (e) what, if anything, can be done to remedy bad results when they have occurred. The authors discuss each of these heads in detail, and emphasize *in this* preliminary paper the following points:

> Comminuted fracture of the os calcis is relatively common.
> Nearly all cases are of *substantially* the same type.
> The results are frequently so imperfect as to interfere seriously with work or to disable the sufferer entirely.
> The cause of disability is not the fracture as such, but certain displacements, which should be remediable, or rather preventable. The treatment ordinarily advocated and carried out is no treatment at all. We have all of us been guilty of what is very nearly criminal negligence in regard to these cases.
> Certain measures are practicable in the treatment of fresh cases that will minimize, or *often prevent*, the *special* displacements which are the cause of disability. It is our duty to adopt a routine embodying some such measures.
> Provided such measures have not been carried out, and provided *disability is present, palliation* is possible by apparatus in some cases, while in others operations of no great gravity or technical difficulty will insure decided improvement of function.

15. ***Coincident Tubal and Intrauterine Pregnancy.***—Green describes a case which he holds to be unquestionably a coincidental intrauterine and extrauterine pregnancy. He urges the following facts in support of the view that the extrauterine pregnancy took place some time after the intrauterine pregnancy:

> 1. It is not an anatomic impossibility.
> 2. This patient was regularly exposed to the possibility of becoming pregnant.
> 3. The tissues of both fetuses stained well, suggesting that neither had been long dead.
> 4. The fetus within the uterine cavity corresponded to one at about the fourth month of normal gestation; the fetus within the Fallopian tube might be easily mistaken for one at about the sixth week of normal pregnancy.
> 5. The placental tissues of the ectopi[illegible] a considerable area and their blood supply w[illegible] ufficient nourishment to have developed a fetus [illegible] considerably larger than this one.
> 6. The placental site within the uterus, as determined by curetting, was the side opposite the tube that contained the ectopic gestation, making *access to this tube possible.*

17. **Bursitis Subacromialis.**—Codman continues his consideration of this subject and discusses the symptoms under the three following types: 1, Acute or spasmodic; 2, subacute or adherent; 3, chronic or non-adherent. He then takes up in detail the diagnosis from tuberculosis, fractures of the tuberosity and of the anatomic and surgical neck, deep axillary abscess, muscular rheumatism, chronic rheumatic conditions, acromio-clavicular arthritis, circumflex paralysis, inflammation of the sheath of the biceps tendon, and brachial neuritis.

Virginia Medical Semi-Monthly, Richmond.

October 9.

18 Tuberculosis of the *Bladder.* W. Karo, Berlin, *Germany.*
19 P.[illegible] and Specific Treatment of Typhoid. A. G. [illegible]
20 [illegible] Between Spasmodic Movements of the Face and the Neck. T. A. Williams, Washington, D. C.
21 Principles Concerned in the Treatment of Intra-Abdominal Tumors. (To be continued.) G. P. LaRoque, Richmond.
22 Principles of Surgery. S. McGuire, Richmond.

October 23.

23 Correlation of the *Physician* and the *Layman.* W. F. Drewry, Petersburg, Va.
24 Medical Side of the Alcoholic Problem. T. D. Crothers, Hartford, Conn.
25 Principles Concerned in the Diagnosis of Intra-Abdominal Tumors. (Concluded.) [illegible]
26 Perforating Wounds of tl[illegible] the Course of Intrauterine [illegible] neck, Chicago.

Medical Fortnightly, St. Louis.

October 26.

27 Charcot *Type* of Exophthalmic Goiter. L. Crummer, Omaha, Neb.
28 *Most Rapid, Effective and Least Bloody Method of Turbinal Removal. C. C. Miller, Chicago.
29 Cerebrospinal Fever—Epidemic Cerebrospinal Meningitis; Spotted Fever. T. G. Stephens, Sidney, Ia.

28. **Removal of Turbinates.**—Miller recommends, as the most rapid, effective and least bloody method of removing the turbinate bone, the use of a hemostatic forceps. The mucosa is cocainized with 2 per cent. solution of cocain. The forceps is then placed accurately with its jaws above and below the hypertrophy and locked. It should be rotated and not pulled on until freed from the base of the turbinate. The bone snaps cleanly along the margin of the jaws and the soft parts give way within the grasp of the forceps, sealing the vessels.

Annals of Surgery, Philadelphia.

October.

30 *Cancer of the Mouth and Tongue. J. C. Warren, Boston.
31 *Method of Operation in Extensive Cancerous Growths of the Cheek Involving the Jaw. L. W. Hotchkiss, New York.
32 *Recurrence at a Late Period after Operation for Cancer of the Breast. W. M. Mastin, Mobile, Ala.
33 Osteoplastic Resection of the Costal Arch, Followed by Resection of Lesser Curvature of Stomach and Esophagus, and Esophagostomy. J. Weiner, New York.
34 *Arrest of Hepatic Hemorrhage Due to Trauma. J. H. Pringle, Glasgow, Scotland.
35 *Cause of Sudden Fall in Blood Pressure While Exploring the Common Bile Duct. J. L. Ransohoff, Cincinnati, Ohio.
36 *Method of Facilitating the Avoidance of Infection During *Intestinal Anastomosis—Preliminary* Report. J. Halpenny, Winnipeg, Man.
37 *Primary* Carcinoma of the Appendix. A. E. Garrow and C. B. Keenan, Montreal.
38 Carcinoma of the Appendix Vermiformis. G. H. Monks, Boston.
39 *Chyle Cysts of the Mesentery. W. B. Brinsmade, Brooklyn, N. Y.
40 Etiology of Hydronephrosis. F. E. Gardner, New York.

30. **Cancer of the Mouth and Tongue.**—From a review of the literature and analysis of statistics, Warren arrives at the *following* conclusions:

> 1. The *relation of the lymphatic system to the primary growth* is the most important anatomic consideration in operations for cancer of the mouth and tongue.
> 2. Chronic inflammatory processes of the mucous membrane which do not *yield promptly to local treatment*, are of importance as predisposing or precancerous conditions, and should be treated surgically.
> 3. Cancer of the mouth and tongue is a local disease limited to the tissues immediately surrounding its point of origin, and to the adjacent system. Internal metastases are rare.
> 4. Microscopic examination of the primary growth should be made the crucial test of diagnosis in doubtful cases, and should be done preferably at the time of the operation. Antisyphilitic treatment is *not* a sure guide, and should not cause delay in surgical interference.
> 5. The *modern* operative *treatment of cancer of the mouth and* tongue involves: (a) Preliminary treatment of the cavity of the *mouth*; (b) *protection of the respiratory tract by drugs, and by* intubation of the pharynx or laryngotomy, or by position; (c) removal of the primary *lesion with a margin of one* inch, if possible, of healthy tissue; (d) block dissection of the lymphatic bearing tissues of the anterior cervical triangle, on one or both sides as a routine measure; (e) a lower operative mortality may be obtained by performing the block dissection of the *neck* as a secondary operation about two weeks after the excision of the primary disease; (f) the intrabuccal operation is inadequate to reach the entire operation field, and should be supplemented by a dissection of *one* or both anterior cervical triangle; (g) the submaxillary route, although it permits a block dissection, does not give such free access to the diseased tissues as is demanded in an oper*ation for cancer*; (h) the route through the jaw exposes the whole field of operation, and enables the surgeon to act as if operating *on the surface of the body*, but division of the lower jaw, as at present performed, adds greatly to the surgical risk.
> 6. The *ideal operation of the future should contemplate a free* exposure of the mouth and anterior cervical triangles as one continuous area, with a *block dissection of its diseased contents.* The use of mechanical devices for protection of the respiratory tract, and the perfection of technical details of the operation, along the lines suggested, should enable us to perform an operation of this character without incurring the large mortality which is now to be expected.
> 7. The mortality varies with the extent of the *operation* and is lowest (5 per cent.) with the intrabuccal operation, and highest (30 to 35 per cent.) in the operation involving *division* or resection of the lower jaw. Death is, as a rule, attributable to shock, sepsis or bronchopneumonia.
> 8. In a series of cases [illegible] from the records of the Massachusetts Gener[illegible] rations on cancer of the tongue and mouth [illegible] nts free from recurrence over 3 years after operation (14.2 per cent.) *All diagnoses were supported by pathologic* examination of the tissue.
> 9. Of 57 patients with cancer of the tongue, 10 (17.5 per cent.) were cured by operation.
> 10. Local recurrence of the disease occurred more frequently in the lymphatic glands alone. In *only one* of these patients did recurrence make its appearance at a period of more than three years after the operation.

31. **Operation for Cancer of the Cheek.**—Hotchkiss describes *an operation for attacking* extensive growths of the cheek. The essential features are: Rapid, clean dissection with a knife, careful retraction to avoid bruising of the tissues, isolation and removal of all the glands and infected fat in the area tributary to the growth, preferably from below upward, and with the least possible handling; ligation of the external carotid artery or temporary compression of the common carotid, after the method of Crile; stopping all bleeding, and finishing the work in the neck and clearing the jaw before the cavity of the mouth is entered; then rapidly removing the tumor, skin, bone and infected glands, *en bloc*, and completing the operation as soon as possible by stitching the pla-

tie flap into place and providing for drainage and suture of the neck.

32 **Late Recurrence of Cancer of Breast.**—Mastin reports a case of a Sister of Charity, 50 years of age, who had the left breast removed for carcinoma (confirmed microscopically) in November, 1885. There was no recurrence of the neoplasm, until the summer of 1903, when a small nodule was found in the skin at the sternal end of the tender and painful operation scar. Mastin describes its condition in 1907. Patient is fleshy and well nourished and refuses further operation.

34. **Arrest of Hepatic Hemorrhage.**—The permanent arrest of hepatic hemorrhage is, in Pringle's opinion, best effected by ligation of the liver tissue in mass in every case in which that is possible, but in some cases it may not be practicable, and then we shall have to rely solely on packing.

35. **Fall of Blood Pressure.**—Ransohoff reports experiments from which it is seen that a marked fall of blood pressure occurs when the common duct is explored by introducing the finger into the foramen of Winslow, and continues at a low level while the finger is held in place. It is due entirely to pressure on the portal vein. He draws the practical conclusion for operation, that the digital exploration of the common duct should be intermitted at short intervals to allow the circulation to regain its normal tone.

36. **Intestinal Anastomosis.**—Halpenny has devised the following operation to obviate the difficulty in lateral anastomosis, arising from infection of the field of operation at the time the artificial opening is made and before it is enclosed by suture: The mesentery is treated in the usual way. The cut ends of the intestine are inverted by two Halsted stitches The intestine is lapped about four inches and a continuous silk suture fastens the two limbs together by going up just alongside the center, opposite to the mesentery and back again just as far from the center of the intestine as the former line of suture, and on the opposite side. A special knife is then inserted entering the lumen of the bowel near one end of the intestine. and with the blade parallel to the circular fibers. It is passed along the lumen of the bowel as far as the shank will allow and the artificial opening is made through the two layers of bowel by cutting back A purse-string suture is then placed about the knife, and. the knife being withdrawn, the hole is closed. The knife is made with a narrow short blade and a long shank The blade makes a very small hole, and the long shank allows the knife to pass up far enough in the intestine to make an opening sufficiently large There is no danger of cutting the stitches. neither is there any danger of cutting too deeply.

39. **Chyle Cysts of Mesentery.**—Brinsmade reports two cases and tabulates twenty four, including his own. From analysis of these cases he concludes that chyle cysts of the mesentery are rare, but may occur at any age, and may be of almost any size. In diagnosis they are hardly to be differentiated from other fluid tumors of the abdomen. They are freely movable and are found in the umbilical region. They are not true cysts, and no attempt at extirpation should be made. The safest procedure is to suture the mesenteric wall of the tumor to the parietal peritoneum, then incise, evacuate the chyle and drain.

Journal of Biological Chemistry.

October

41 Chemistry of the Liver in Chloroform Necrosis (Delayed Chloroform Poisoning) H. G Wells Chicago
42 Influence of Temperature on the Solubility of Casein in Alkaline Solutions T B Robertson, San Francisco
43 Researches on Pyrimidins: The Action of Diazobenzene Sulfonic Acid on Thymin, Uracil and Cytosin T B Johnson and S H Clapp, New Haven, Conn
44 Mode of Oxidation of Phenyl Derivatives of Fatty Acids in the Animal Organism H D Dakin, New York.
45 Hydrolysis of Vicilin from the Pea. T B. Osborn and F W. Heyl, New Haven
46 Hydrolysis of Legumelin from the Pea. Id
47 Method for the Quantitative Determination of B-Oxybutyric Acid in Urine P. A. Shaffer, New York
48 *Influence of Complete Thyroidectomy and of Thyroid Feeding on Certain Phases of Intermediary Metabolism F. P Underhill and T. Saiki, New Haven, Conn
49 A Globulin from the Egg Yolk of the Spiny Dog Fish (Squalus Acanthias L) C. L. Alsberg and E D. Clark, Boston.
50 *Chemical Evidence of Peptonization in Raw and Pasteurized Milk R H Colwell and H. C. Sherman, New York
51 Preliminary Study of the Sensitizing Portion of Egg White. M F Leach, Oxford, Ohio.
52 *Milk Proteins G A Olson, Madison, Wis
53 Use of the Fermentation Tube in Intestinal Bacteriology. C A Herter and A I Kendall, New York.
54 *Fate of *Bacillus bulgaricus* (in bacillae) in the Digestive Tract of a Monkey C. A. Herter and A. I. Kendall, New York

48 **Thyroid and Metabolism.**—Underhill and Saiki summarize their results as follows: After complete thyroidectomy (and parathyroidectomy?) in dogs, the ammonia output in the urine is increased, even beyond what is observed in starving animals The urinary nitrogen eliminated as creatinin, purin bodies and allantoin, is about equal in amount to what has been noted in fasting dogs As in normal fasting dogs, a variable and frequently not inconsiderable output of creatin was observed Thyroidectomized dogs are incapable of utilizing subcutaneously introduced dextrose in anywhere near the same degree as normal animals. It is thus suggested that the loss of the glands may occasion a change in the gaseous metabolism similar to that which has been observed in myxedema, cretinism, etc. Thyroid tissue fed to normal dogs causes a slight increase in urinary nitrogen excretion. This influence soon disappears on cessation of thyroid administration Small doses of thyroid appear to have as pronounced an influence on the nitrogen elimination as larger ones A larger output of purin-nitrogen and a low output of phosphorus were observed after the continued administration of large doses of thyroid tissue. Thyroid feeding produces little change in the interrelation of the nitrogenous urinary constituents This is in harmony with the accumulating evidence that these relationships are upset only by exceptionally profound disturbances in the nutrition of the cells.

50 **Peptonization in Milk.**—It is well known that milk which has been heated to a sufficient temperature to destroy most of the acid-forming bacteria may still contain putrefactive or petonizing" organisms, and it has been suggested that this may constitute an objection to the pasteurization of milk as a preservative measure, since the latter forms may grow more readily after destruction of the former and the absence of a sour odor or taste may result in the milk being used as food after objectionable products have been formed by the action of these putrefactive or ‘peptonizing" bacteria on the milk proteids. Experiments based on the amount of ammonia developed have shown that pasteurization is less efficient in checking the development of ammonia than in checking the production of acid, and this was especially true of the milk pasteurized at the higher temperature (85 C.), which before becoming sour showed the amount of ammonia considerably in excess of that contained in unpasteurized milk of the same age and origin Colwell and Sherman have supplemented the study of ammonia content by comparative tests for peptone in samples kept raw and after pasteurization at different temperatures The results may be summarized as follows Pasteurization at 60 C. appears to have restrained peptonization to about the same extent that it restrained souring. It apparently had no constant effect in rendering the milk either more or less liable than raw milk to the development of offensive odors. Pasteurization at the higher temperatures (75 and 90 C.) delayed souring to a much greater extent and had less restraining effect on peptonization The samples pasteurized at 75 and 90 C. developed much more offensive odors than those of the same origin pasteurized at 60 C or not at all. While the development of an offensive putrid odor does not necessarily run parallel either with the ammonia content or with the intensity of the biuret reaction, and while it is evidently incapable of exact measurement, it must be regarded as of considerable sanitary significance, since it indicates the predominance of an objectionable type of change The results of this investigation, together with that of the effect of pasteurization on the development of ammonia in milk tend to emphasize from the standpoint of the subsequent chemical changes the desirability of low temperatures, as recommended by Rosenau and others, in pasteurizing milk when necessary as a safeguard against infectious diseases, and the objectionableness of depending on

pasteurization as a preservative measure. The importance of keeping milk cold and consuming it quickly are apparently not diminished by its pasteurization, even under conditions so favorable as to preclude subsequent contamination.

52. **Milk Proteins.**—Olson has discovered a new protein in milk, cream and butter, which is very rich in nitrogen, containing 18.93 per cent. of the same. This protein has the power of digesting casein, which is most active in neutral milk at 65 C. (151 F.). The ferment is destroyed at 80 C. (176 F.). The filtrate obtained after the removal of the new protein also has digestive properties.

54. **Bacillus Bulgaricus in the Digestive Tract.**—Herter and Kendall reach the following conclusions as to the fate of the Bulgarian bacillus of Metchnikoff in the digestive tract:

1. By feeding a rhesus monkey for two weeks exclusively on milk fermented with *B. bulgaricus* (but containing also some yeasts), it was possible to maintain an acid reaction throughout the digestive tract. The acid reaction was more pronounced above the ileocecal region than at this region or below it. The acidity decreased progressively from the ileocecal region to the anus. Lactic acid was detectable at every point in the digestive tract that was tested, the reaction growing less marked below the ileocecal region.

2. Exclusive feeding for two weeks with milk fermented with *B. bulgaricus* failed to establish the predominance of this organism in the ileocecal region or in the large intestine. In the latter situation the number of bacilli of this type was relatively small and decreased toward the anus. Thus in the regions characterized by most active putrefaction the lactic acid bacilli failed to establish themselves in relatively large numbers.

Mississippi Medical Monthly, Vicksburg.

October.

55 Pathology and Treatment of Acute Suppurative Otitis Media. B. D. Sibley, Birmingham, Ala.
56 Forceps. P. A. Carter, Hattiesburg.
57 Case for Diagnosis. G. F. Carroll, Biloxi.
58 Obstetrics in the Country. M. L. Batson, Leakesville.

Therapeutic Gazette, Detroit.

October.

59 Chronic Recurrent Suppurative Otitis Media and Its Relation to Mastoid and Intracranial Complications. S. M. Smith, Philadelphia.
60 Enzymes of the Human Pancreatic and Intestinal Juice Obtained Through a Jejunal Fistula. J. H. Hoelscher, Chicago.
61 Hold Fast to That which is Good in Diagnosis and Therapeutics. H. A. Hare, Philadelphia.
62 Indications and Contraindications for the Use of Digitalis. A. D. Blackader, Montreal.

Ohio State Medical Journal, Cleveland.

October.

63 *Value of Gastric Lavage. J. Eichberg, Cincinnati.
64 Case of Popliteal Aneurism, Treated by Matas Operation. C. F. Hegner, Cincinnati.
65 Arterial Changes in Chronic Interstitial Nephritis. C. F. Hoover, Cleveland.
66 Etiology and Pathology of Chronic Interstitial Nephritis Including the Urinary Findings. L. A. Levison, Toledo, O.
67 *Lumbago Simulating Kidney Disease. T. M. Reade, Springfield, O.
68 Recent Advancements in Eye, Ear, Nose and Throat Work Through Bacteriotherapy. O. Berghausen, Cincinnati.
69 Hematuria. C. D. Kurtz, New Philadelphia.
70 Hay Fever. J. F. DeWitt, Canton.

63. **Gastric Lavage.**—Eichberg thinks the profession to blame in not making more general use of gastric lavage. He emphasizes the following points in the technic:

1. Assure the patient that he can and will succeed, though the sensation will be slightly disagreeable.

2. Tell the patient not to hold his breath when the tube enters the pharynx, but to close the teeth gently *on* the tube, take a long, full breath, let it out again and repeat this maneuver two or three times.

3. Have the patient keep the head *bent* slightly forward (the patient being seated), so that the tube shall follow the posterior wall of the pharynx, thereby avoiding the irritation of the epiglottis or the entrance to the larynx.

4. Use a tube of moderately large size and of a certain rigidity. The tube is often made too soft at the time of insertion by being placed in hot water. Cold water is greatly to be preferred.

5. Use no oily lubricant. Cold water, with the addition of the normal salivary secretion, is sufficient for this purpose.

6. Push the tube gently but quickly as soon as the tip has passed the pharynx until it reaches the stomach.

Under proper circumstances the patient can and should be taught the necessary manipulation *for* himself. He thinks that the best period of the day, generally speaking, is before the evening meal, for several reasons, not the least of which is the long interval before the next meal. Any condition that implies the undue retention of food products in the stomach becomes an indication of gastric lavage. He thinks the dangers of its use in gastric ulcer, though present, are overrated. In this condition, besides cleansing, the process may be used for the introduction of astringent solutions. Lavage is urgently indicated in all cases of acute or chronic dilatation. In organic, non-malignant stricture it can only constitute a temporary makeshift. In carcinoma of the stomach the same *general principles apply* as in chronic dilatation, with the more imperative demand for lavage due to a foul ulceration. *It is of course only palliative.* Its greatest use is in chronic dyspepsia, usually a chronic gastritis, also in hypersecretion. It is useful in several acute conditions, notably intestinal obstruction, postoperative ileus, acute dilatation of the stomach, recurrent vomiting of children, acute indigestion from overindulgence or decomposition of food products, and in poisoning of various kinds. It is a diagnostic measure of great value.

67. **Lumbago.**—Reade recommends the following method: The patient is placed on a couch or table in the semiprone position, leaving the muscles of the back relaxed. After carefully washing the skin with soap and hot water a little alcohol is applied to the surface. Strips of plaster measuring from 9 to 12 inches are then applied, first vertically along the spine, then obliquely across the loins, then transversely across the lumbar muscles until the whole region is firmly bound.

Bulletin Johns Hopkins Hospital, Baltimore.

October.

71 *Sir John Harrington. J. G. Adami, Montreal..
72 The School of Montpelier. W. G. MacCallum, Baltimore.
73 Dr. Elisha North. One of Connecticut's Most Eminent Medical Practitioners. W. R. Steiner, Hartford, Conn.
74 Psychiaters and Psychiatry of the Augustan Era. S. E. Jelliffe, New York.
75 *Thomas Muffet, 1553-1604. J. Ruhräh, Baltimore.

71. **Sir John Harrington.**—Adami gives an interesting historical account of this worthy, who, in the reign of Queen Elizabeth, introduced the water closet in place of the privy.

75. **Thomas Muffet.**—Ruräh describes "a type of physician which has for centuries been the ideal of the British practitioner: A scholarly and gentlemanly physician, with a love of literature, of scientific research, and particularly of natural history; a man taking a part in the life of the world as well as active in his profession."

Pennsylvania Medical Journal, Athens.

October.

76 *Physicians must be Sociologists—Their Obligation to One Another and to Society. W. L. Estes, South Bethlehem.
77 "Dyspepsia," What Does It Signify. E. Marvel, Atlantic City, N. J.
78 Prescribing Versus Dispensing. J. H. Comroe, York.
79 Prescribing Versus Dispensing. A Pharmacist's Viewpoint. E. C. Lafean, York.
80 *Nourishment of Patients During Typhoid. L. Litchfield, Pittsburg.

76. Abstracted in The Journal, Oct. 3, 1908, *p.* 1178.

80. **Typhoid.**—Litchfield points out *that the* essential feature of typhoid is the combustion of the body nitrogen, which is not *proportionate to the* typhoid lesions or dependent on the temperature, but is due to the toxemia, caused both by the invading bacteria and by the fermentative changes in the intestinal tract. In underfed patients this results in a terrific loss of body proteids, in which lies the greatest danger of the disease. This may often be combated by judicious feeding. Litchfield gives the following arguments for *liberal* feeding:

1. The maintenance of the patient's strength and *nutrition* at the highest possible point increases and promotes resistant, reactive and recuperative powers in the treatment of tuberculosis, sepsis and patients with extensive ulcerating surfaces.

2. The patients are more comfortable, the duration of the disease slightly shorter, convalescence more rapid, and the complications fewer.

3. No one who has tried liberal feeding conscientiously *has* condemned it.

Northwest Medicine, *Seattle*, Wash.

October.

81 *Some Needs of Our *Profession.* C. N. Suttner, Walla Walla, Wash.
82 Importance of After-Treatment in Surgical Cases. L. P. McCalla, Boise, Idaho.

81. **Needs of Our Profession.**—The profession's needs are stated by Suttner as a united *medical profession*, the punishment of quacks and quackery, the scientific cooperation of pharmacists, a restriction *of* the ease with which the laity is able to secure various poisonous drugs, lodge practice, urgent effort toward *the* prevention of the social diseases, with.

among other results, the suppression of ophthalmia neonatorum and the suppression of abortion. He urges a state sanatorium for Washington for the treatment of incipient tuberculosis, and reciprocity between Idaho, Oregon and Washington, which have a community of interest in medical matters and whose licensing requirements are equally exacting.

Memphis Medical Monthly.

October.

83 *Pernicious Malaria. W. H. Dederick, Marianna, Ark.
84 *Melancholia in Children, with Report of Case. J. D. Bridger, Memphis.
85 What Constitutes Rational Urinology? W. Krauss, Memphis.
86 Gonorrhea in Girl Babies, with Report of Cases. E. Rosamond, Memphis.

83. Published in *Memphis Medical Monthly*, July, 1908, and *Medical Record*, July 25, 1908. Abstracted in THE JOURNAL, Aug. 8, 1908, p. 530.

84. **Melancholia in a Child.**—Bridger reports an exceedingly rare case of melancholia in a girl of 3, which was said to be due to ill treatment at an institution. The patient was removed thence to the day nursery, and Bridger reports the case as follows: She was in good physical condition, would eat anything given her, slept well and never cried or showed any displeasure at anything said or done to her. Gradually it was noticed that experiences that would please other children made no impression on her. She did not care to play with others, and would sit all day in a corner by herself, or remain anywhere or in any position in which she might be placed, without any apparent desires. She would eat when given food, but she would never even carry to her mouth a stick of candy placed in her hand unless told to do so. She would void her urine or evacuate her bowels only at the dictation of the nurse. At the height of the condition she would lie or sit in bed, absolutely motionless, took no notice of her surroundings, and could not be induced to smile or say a word. She would react very feebly to any form of cutaneous stimulation, and would, to a certain degree, tolerate pain rather than move. There was slight resistance to any attempt at passive movement of arms or legs, giving the joints a waxy sensation and the limbs would retain any position given them. Bridger has caught her hand while walking, and would stop suddenly, releasing his hold on her outstretched hand, and play with children immediately behind her, without her lowering her arm or changing her position in any way for fifteen minutes by the watch. At other times he would leave the arm outstretched and quit the room, watching her without her knowledge, from a window at her back for an hour, without her changing the position. The matron of the nursery had often noticed her retain an unnatural or uncomfortable position for hours unless told by some one to move, or unless her position was changed by some one. She gave the impression of one hypnotized, but her submissive mind was subject to any one's dictation. The only treatment given was outdoor air, good nourishing food, regulation of bowels, syrup of the iodid of iron, and the best possible environment. The first improvement was noticed in the cataleptoid condition and gradually but slowly the child became brighter, more talkative, and at the end of about three months was apparently normal in every way.

Western Medical Review, Omaha, Neb.

October.

87 Retroflexion of the Uterus. W. O. Henry, Omaha.
88 *Acute Glaucoma. D. C. Bryant, Omaha, Neb.
89 Detailed Report of a Case of Splenomegaly (Typhus Gaucher)—Splenectomy—Recurrence. T. Truelson, Omaha, Neb.
90 Metabolism of Uric Acid. L. B. Pilsbury, Asylum, Neb.

88. Abstracted in THE JOURNAL, July 4, 1908, p. 67.

Kentucky Medical Journal, Bowling Green.

October.

91 *President's Address. Kentucky State Medical Association. J. G. Cecil, Louisville.
92 Mechanical Prescription. T. Sollmann, Cleveland, O.
93 *Parallels of Bovine and Human Tuberculosis. W. A. E. Wyman, Covington.
94 *Physicians of To-day and To-morrow. D. S. Wilson, Louisville.
95 *Perforated and Infective Peritonitis. F. Boyd, Paducah.
96 Large Ventral Hernia Operation. Drs. Peak and Humphrey, Louisville.
97 The Doctor and Medical Ethics. W. Bailey, Louisville.

91, 93 and 94. Abstracted in THE JOURNAL, Oct. 31, 1908, p. 1545, 1546.

95. Abstracted in THE JOURNAL, Oct. 24, 1908, p. 1543.

Military Surgeon, Carlisle, Pa.

October.

98 Individual First Aid Packets of the Principal Armies of the World. E. Laval, French Army.
99 *Facts About the Army Canteen. A. N. McGee, U. S. Army.
100 Proposal for a National Medical Service or Department of Public Health. S. G. Evans, U. S. Navy.
101 Effects of Tropical Climate on the White Race. W. A. Wickline, U. S. Army.
102 Teaching of Tropical Medicine. J. M. Phalen, U. S. Army.
103 The Board for the Study of Tropical Diseases as They Occur in the Philippine Islands. P. M. Ashburn, U. S. Army.

99. **Army Canteen.**—McGee discusses facts and conditions which lead her to formulate the following propositions:

> 1 There has been somewhat less drunkenness in the army since the canteen was abolished than there was in the years when it flourished.
>
> 2\. The difference in amount of alcoholism during the canteen years (before 1898) and that during the post canteen years is so slight as to show in conjunction with other facts that the presence or absence of the canteen has a decidedly minor effect on drunkenness in comparison with other influences.
>
> 3\. There was an enormous increase in venereal diseases in 1899, coincident with tropical service; there was no increase in the United States in the four years following the abolition of the canteen, as compared with the two years preceding it. In the Philippine Islands there was an absolutely regular increase from 1896 to 1903.
>
> 4\. The increase of saloons outside army posts, which was so generally predicted to follow an anticanteen law, did not occur at all.
>
> 5\. Desertions, courts martial, etc., are due to so many causes that they were not considered worthy of thorough analysis, but so far as examined, no pro-canteen evidence was found.
>
> 6\. The statement that the "army from the lowest rank up is (1907) practically unanimous in its desire to have the canteen re-established," is an opinion, proof of which could not be obtained.
>
> 7\. Quite apart from the canteen, the subject of drunkenness and immorality in the army demands attention. International medical statistics show that the admission rates of alcoholism, for gonorrhea, and (British excepted), for syphilis, "were much higher than in any other army." (Surgeon-General's Report, 1907, pages 23 and 26; for 1906, pages 22 and 24.)

Ophthalmic Record, Chicago.

October.

104 *Relation Between Retinal Hemorrhages and High Arterial Pressure. L. W. Fox and W. C. Batroff, Philadelphia.
105 Smith Indian Operation in the Extraction of Fifteen Cataracts. D. W. Greene, Dayton, O.
106 Primary Epibulbar Melanosarcoma. J. Gross, St. Louis.
107 Breaking Off of Point of Knife while Performing Iridectomy. W. H. Snyder, Toledo, O.

104. **Retinal Hemorrhages and High Arterial Pressure.**—Fox and Butroff tabulate 100 consecutive cases of ocular hemorrhages from private and dispensary cases, the analysis of which leads them to the following conclusions:

> A large proportion, 80 per cent., of retinal hemorrhages, occur in individuals suffering from a temporary or permanent high arterial blood pressure, due to the causes enumerated.
>
> This excessive intravascular pressure is apparently the most frequent exciting cause of these hemorrhages.
>
> Venesection has proved of value, not only in reducing dangerously high pressure, but in acting as a powerful stimulus to a speedy absorption of the clot.

American Journal of Urology, New York.

October.

108 Antigonococcic Serum. C. Chassaignac, New Orleans.
109 Therapeutic Value of Medical Treatment in Vesical Hematuria. P. Sauvan, Montpellier, France.
110 *Hydronephrosis in Children and Its Treatment. O. Engles, Schleswig, Germany.
111 Genital Tuberculosis. F. Legueu, Paris, France.

110. **Hydronephrosis.**—Engler reports cases to show that children, even during the first few years of life, may undergo nephrectomy well, and that very good results are obtained when the operation is a primary one. He gives instances, both of traumatic and congenital nature.

Chicago Medical Recorder.

October.

112 The Tuberculosis Crusade. F. Tice, Chicago.
113 *Perforating Wounds of the Uterus Inflicted During the Course of Intrauterine Instrumentation. A. P. Heineck, Chicago.
114 Relief of Retention of Urine by Suprapubic Catheter. W. T. Belfield, Chicago.
115 Sudden Death that May Come to a Recently Delivered Mother. C. E. Hemingway, Oak Park, Ill.
116 Eye, Ear, Nose and Throat Work in Vienna. D. A. Vanderhoof, Rockford, Ill.
117 Pancreatic Insufficiency. J. Burke, Manitowoc, Wis.

pasteurization as a preservative measure. The importance of keeping milk cold and consuming it quickly are apparently not diminished by its pasteurization, even under conditions so favorable as to preclude subsequent contamination.

52. **Milk Proteins.**—Olson has discovered a new protein in milk, cream and butter, which is very rich in nitrogen, containing 18.93 per cent. of the same. This protein has the power of digesting casein, which is most active in neutral milk at 65 C. (151 F.). The ferment is destroyed at 80 C. (176 F.). The filtrate obtained after the removal of the new protein also has digestive properties.

54. **Bacillus Bulgaricus in the Digestive Tract.**—Herter and Kendall reach the following conclusions as to the fate of the Bulgarian bacillus of Metchnikoff in the digestive tract:

1. By feeding a rhesus monkey for two weeks exclusively on milk fermented with *B. bulgaricus* (but containing also some yeasts), it was possible to maintain an acid reaction throughout the digestive tract. The acid reaction was more *pronounced above* the ileocecal region than at this region or below it. The acidity decreased progressively from the ileocecal region to the anus Lactic acid was detectable at every point in the digestive tract that was tested, the reaction growing less marked below the ileocecal region

2. Exclusive feeding for two weeks with milk fermented with *B bulgaricus* failed to establish the predominance of this organism in the ileocecal region or in the large intestine In the latter situation the number of bacilli of this type was relatively small and decreased toward the anus Thus in the regions characterized by most active putrefaction the lactic acid bacilli failed to establish themselves in relatively large numbers

Mississippi Medical Monthly, Vicksburg.

October

55 Pathology and Treatment of Acute Suppurative Otitis Media B D Sibley, Birmingham, Ala
56 Forceps P A Carter, Hattiesburg.
57 Case for Diagnosis G F. Carroll, Biloxi
58 Obstetrics in the Country. M L Batson, Leakesville.

Therapeutic Gazette, Detroit.

October

59 Chronic Recurrent Suppurative Otitis Media and Its Relation to Mastoid and Intracranial Complications S M. Smith, Philadelphia
60 Enzymes of the Human Pancreatic and Intestinal Juice Obtained Through a Jejunal Fistula J H Hoelscher, Chicago
61 Hold Fast to That which is Good in Diagnosis and Therapeutics H A Hare, Philadelph'a
62 Indications and Contraindications for the Use of Digitalis A D Blackader, Montreal

Ohio State Medical Journal, Cleveland.

October.

63 *Value of Gastric Lavage J. Eichberg, Cincinnati
64 Case of Popliteal Aneurism, Treated by Matas Operation. C F. Hegner, Cincinnati
65 Arterial Changes in Chronic Interstitial Nephritis C F Hoover, Cleveland
66 Etiology and Pathology of Chronic Interstitial Nephritis Including the Urinary Findings L A Levison, Toledo, O
67 *Lumbago Simulating Kidney Disease T M Reade, Springfield, O
68 Recent Advancements in Eye, Ear, Nose and Throat Work Through Bacteriotherapy O Berghausen, Cincinnati
69 Hematuria C D Kurtz, New Philadelphia
70 Hay Fever J F DeWitt, Canton

63 **Gastric Lavage.**—Eichberg thinks the profession to blame in not making more general use of gastric lavage. He emphasizes the following points in the technic:

1 Assure the patient that he can and will succeed, though the sensation will be slightly disagreeable
2 Tell the patient not to hold his breath when the tube enters the pharynx, but to close the teeth gently on the tube, take a long, full breath, let it out again and repeat this maneuver two or three times
3 Have the patient keep the head *bent slightly* forward (the patient being seated), so that the tube shall follow the posterior *wall of the pharynx*, thereby avoiding the irritation of the epiglottis or the entrance to the larynx
4 Use a tube of moderately large size and of a certain rigidity. The tube is often made too soft at the time of insertion by being placed in hot water Cold water is greatly to be preferred
5 Use no oily lubricant Cold water, with the addition of the normal salivary secretion, is sufficient for this purpose
6 Push the tube gently but quickly as soon as the tip has passed the pharynx until it reaches the stomach

Under proper circumstances the patient can and should be taught the necessary manipulation for himself. He thinks that the best period of the day, generally speaking, is before the evening meal, for several reasons, not the least of which is the long interval before the next meal. Any condition that implies the undue retention of food products in the stomach becomes an indication of gastric lavage. He thinks the dangers of its use in gastric ulcer, though present, are overrated. In this condition, besides cleansing, the process may be used for the introduction of astringent solutions. Lavage is urgently indicated in all cases of acute or chronic dilatation In organic, non-malignant stricture it can only constitute a temporary makeshift. In carcinoma of the stomach the same general principles apply as in chronic dilatation, with the more imperative demand for lavage due to a foul ulceration It is of course only palliative Its greatest use is in chronic dyspepsia, usually a chronic gastritis, also in hypersecretion It is useful in several acute conditions, notably intestinal obstruction, postoperative ileus, acute dilatation of the stomach, recurrent vomiting of children, acute indigestion from overindulgence or decomposition of food products, and in poisoning of various kinds It is a diagnostic measure of great value

67. **Lumbago.**—Reade recommends the following method The patient is placed on a couch or table in the semiprone position, leaving the muscles of the back relaxed. After carefully washing the skin with soap and hot water a little alcohol is applied to the surface Strips of plaster measuring from 9 to 12 inches are then applied, first vertically along the spine, then obliquely across the loins, then transversely across the lumbar muscles until the whole region is firmly bound

Bulletin Johns Hopkins Hospital, Baltimore.

October.

71 *Sir John Harrington J G Adami, Montreal
72 The School of Montpelier W. G. MacCallum, Baltimore
73 Dr Elisha North, One of Connecticut's Most Eminent Medical Practitioners W R Steiner, Hartford Conn
74 Psychiaters and Psychiatry of the Augustan Era S E Jelliffe, New York
75 *Thomas Muffet, 1553 1604 J Ruhräh, Baltimore

71. **Sir John Harrington.**—Adami gives an interesting historical account of this worthy, who, in the reign of Queen Elizabeth, introduced the water closet in place of the privy

75. **Thomas Muffet.**—Ruräh describes "a type of physician which has for centuries been the ideal of the British practitioner: A scholarly and gentlemanly physician, with a love of literature, of scientific research, and particularly of natural history: a man taking a part in the life of the world as well as active in his profession."

Pennsylvania Medical Journal, Athens.

October

76 *Physicians must be Sociologists—Their Obligation to One Another and to Society. W. L Estes, South Bethlehem
77 "Dyspepsia," What Does It Signify E Marvel, Atlantic City, N J
78 Prescribing Versus Dispensing J H Comroe, York
79 Prescribing Versus Dispensing A Pharmacist's Viewpoint E C Lafean, York
80 *Nourishment of Patients During Typhoid L Litchfield Pittsburg

76 Abstracted in The Journal, Oct. 3, 1908, p 1178

80. **Typhoid.**—Litchfield points out that the essential feature of typhoid is the combustion of the body nitrogen, which is not proportionate to the typhoid lesions or dependent on the temperature, but is due to the toxemia, caused both by the invading bacteria and by the fermentative changes in the intestinal tract. In underfed patients this results in a terrific loss of body proteids, in which lies the greatest danger of the disease This may often be combated by judicious feeding Litchfield gives the following arguments for liberal feeding

1 The maintenance of the patient's strength and nutrition at the highest possible point increases and promotes resistant reactive and recuperative powers in the treatment of tuberculosis, sepsis and patients with extensive ulcerating surfaces
2 The patients are more comfortable, the duration of the disease slightly shorter, convalescence *more rapid*, and the complications fewer
3 No one who has tried liberal feeding conscientiously has condemned it

Northwest Medicine, Seattle, Wash.

October

81 *Some Needs of Our Profession C N Suttner Walla Walla Wash
82 Importance of After Treatment in Surgical Cases L F McCalla, Boise, Idaho

81. **Needs of Our Profession.**—The profession's needs are stated by Suttner as a united medical profession, the punishment of quacks and quackery, the scientific cooperation of pharmacists, a restriction of the ease with which the laity is able to secure various poisonous drugs, lodge practice urgent effort toward the prevention of the social diseases, with,

each in their turn been received with incredulity and hostile criticism. Surely this is more as it should be than if they had been met with an amiable and supine acquiescence. Hostile criticism is the best advertisement and controversy makes for education. It is right and desirable that each new phase of science in its bearing on the art of medicine should be subjected to the fire of criticism, to purify it and weld it into due relation with all other factors. Until it has passed through that ordeal it remains but of philosophic interest."

2. **Blood Pressure.**—Brunton discusses the history of attempts to measure the blood pressure and the various classes of instruments used for this purpose. He prefers the Riva Rocci's armlet with Potain's aneroid manometer. According to his observations the maximum pressure in children from 8 to 14 years of age is about 90 millimeters; below 8 he has no observations. From about 15 to 21 years of age it varies from 100 to 115 or 120; from 21 to 65 years from 120 or 125 up to 135 or 150; and above 65 years it may still remain at from 135 to 150 or about this pressure if the arteries are elastic, or it may go up to 180, 200, or even higher. In women the pressure, as a rule, is about 10 or 15 centimeters lower than the corresponding pressure in men. In strong athletic men the pressure is usually somewhat higher, about 10 or 15 mm., than in men of moderate physical development. The general symptoms accompanying diminished pressure are usually such as to indicate in no uncertain manner the necessity for tonic treatment—abundant food, gentle exercise, open air, sunshine and general and cardiac tonics. But in increased pressure there is frequently a sense of power and desire for action, which imparts a feeling of well-being and makes the patient scout the idea of the necessity for care. Sudden death is often preceded by a period in which the patient appears extraordinarily well. High tension is not only a direct cause of cardiac failure or ruptured vessels in itself; it also produces atheroma of the arteries, rendering them more liable to break. Brunton quotes the observations of Josué and G. R. Ricketts in support of the fact that the high tension is the cause of the atheroma. We do not yet know precisely what the substances are which tend to raise the arterial tension during advanced life. The indications of treatment in high tension are the limiting of proteid food, especially meat, and restricting the patient to bread, vegetables, fruit, buttermilk and fat bacon. Alcohol, tea, coffee and tobacco should be used sparingly, if at all, and if the tension is high should be prohibited. Little fluid should be taken with meals; plain water, hot water or mineral water may be taken freely about three hours after eating, as the food is passing from the stomach in the duodenum. Moderate exercise without strain is beneficial, but all strain, mental or physical, must be absolutely avoided. Steady mental work in moderation is good, but irritation and emotion are bad. Constipation must be avoided: mercurials have an especially beneficial action—½ or 1 grain (0.03 or 0.065) of calomel, or from 3 to 5 grains (0.20 to 0.32) of blue pill, or a combination of the two, may be given once or twice a week, followed by a saline in the morning. Potassium iodid, one to ten grains (0.065 to 0.65) given three times a day, is useful. Other remedies are ammonium and sodium hippurates, sodium benzoate, sodium nitrite, potassium nitrate, and potassium bicarbonate. When the heart begins to fail, with irregularity or intermission of pulse, giddiness, inability for exertion, shortness of breath, or edema of the ankles, cardiac tonics should be combined with vascular dilators, and rest, comparative or absolute, insisted on. Where flatulent distention in these cases causes much distress, Brunton finds the following mixture very useful:

℞.

Liquoris trinitrini . .	.03 to	18	m. ss—iij
Spiritus ammonii aromatici	80 to 3	4	m. xv—ʒi
Spiritus ætheris compositi	..		or
Spiritus chloroformi, āā	28 to	55 āā	m. v—x
Tincturæ cardamoni compositi	55 to 1	7	m. x—xxx
Aquæ menthæ piperitæ . ..	ad 30		℥j

This draught may be repeated every quarter of an hour till relief is obtained or until the trinitrin causes giddiness. Inhalations of amyl nitrite, chloroform, ethyl iodid or subcutaneous injections of morphin may be necessary.

British Medical Journal, London.

October 17.

7 *Antituberculosis Program: Coordination of Protective Measures. R. W. Philip.
8 *Use and Misuse of Iron Remedies. E. Smith.
9 Analogy Between Spontaneous Recoveries from Cancer and the Specific Immunity Induced by X-Ray Irradiations of the Lymphatic Glands Involved. H. D. McCulloch.
10 Future of the Ailing Poor-Law Child. A. D. Edwards.
11 Administration and Dose of Staphylococcus Vaccine. B. C. Kelly
12 Flies as Carriers of the *Bacillus typhosus*. E. Klein.
13 *Splenic Enlargements Other than Leukemic. W. Osler.
14 *Fatty Acid Intoxication. L. Guthrie.
15 Fatty Acid Intoxication in Children. E. I. Spriggs.
16 *Prognosis of Infantile Convulsions. R. O. Moon.
17 Compensatory and Regenerative Changes in the Liver. F. C. Moore
18 The Typhoid Carrier Problem, with Experiments on Immunity in Carriers. J. C. C Ledingham.
19 Production of Immunity Against Dysentery Toxin. M. A. Ruffer and J. G. Willmore.
20 *Ocular Tuberculin Reaction. J. H. Sequeira.
21 Treatment of Skin Diseases by Electrolytic Medication (Ionic Methods). H L. Jones.

7. Published in *Boston Medical and Surgical Journal*, Oct. 22, 1908; abstracted in The Journal, Nov. 7, 1908, p. 1639.

8. **Iron Remedies.**—Smith says that few remedies demand more accurate judgment as to the cases to which they are appropriate and the points of illness at which they may best be prescribed than the salts of iron. Not all anemias call for iron, nor all stages of the condition. In chlorosis it is often the emetic effect of iron sulphate that is of value. He relates the cases of two girls treated unavailingly with aloes and iron pills for months, who then went to an old woman who gave them a package of twelve powders, one to be taken every morning. Each powder made the patient violently sick, so that she brought up a quantity of tenacious mucus, and the stomach becoming cleaned out the health was re-established. Each powder was found to consist of twenty grains of iron sulphate. Smith has since treated many patients satisfactorily with twenty-grain (1.30) doses of zinc sulphate, taken fasting on successive mornings. In this class of cases iron as iron is no good. Irrigation of the stomach with a hot normal saline solution or compound senna mixture will produce the same effect as zinc sulphate. During convalescence or when the derangement has subsided after severe indigestion, the tongue being pale, indented, and silvery, the acid preparations of iron are especially indicated. Rickets and splenic anemia show improvement most quickly with acid preparations—ferrous chlorid or sulphate. In tuberculous bone or gland disease in children, Smith has obtained the best results from a mixture of the tincture of chlorid of iron, from 5 to 10 drops, with the pharmacopeial (B. P.) solution of the mercury perchlorid from 10 to 20 drops (0.60 to 1.20) taken perseveringly three times a day for months. In mucous disease, the best form is the tartrate (B. P.) or the ammoniocitrate, given with alkali in a bitter infusion. The strong preparations should be taken immediately after meals. Bitter infusions, e. g., calumba, frequently add to the value of the remedy, but if stale they may upset the stomach, the blame for which is usually placed on the iron. In every case of assumed incapacity to take iron the bitter should be omitted and the perchlorid given well diluted in aërated waters. The pernitrate in small doses, one to two minims (0.06 to 0.12) of the solution, is a safe and efficient remedy for children, in convalescence from chronic diarrhea. It has an invigorating effect on all mucous membranes, and is often useful in chronic bronchitis, menorrhagia and leucorrhea. The perchlorid has a diuretic action useful in albuminuria, especially at the end of acute Bright's disease, when the albumin is slow to disappear. Smith prefers Basham's mixture. In erysipelas he considers the value of the perchlorid greatly exaggerated, though it is doubtless useful in many cases. He concludes with the following general instructions: Any sign of irritability of the stomach is to be taken as an indication that the stronger preparations are to be avoided, and even the milder salts—the tartrate and the ammoniocitrate—should be prescribed timidly, and only in conjunction with an alkali, such as citrate of potash or the aromatic spirits of ammonia, in a freshly made bitter infusion. If the tongue be clean, or merely flabby and pale, showing indentations of the teeth at the sides, the stronger salts may be prescribed

with confidence, and the dose may often be pushed with advantage if aperients are given from time to time.

13. **Splenic Enlargements.**—Osler gives the following clinical grouping of splenic enlargement and discusses in detail the last six groups:

1 In children, disturbances of metabolism and in chronic intestinal infections: Rickets amyloid disease, and in a large ill-defined group of intestinal disorders, particularly in the tropics, the pseudoleukemia infantum
2 In the infections: Syphilis malaria, kala azar, and other forms of tropical splenomegaly, Hodgkin's disease and tuberculosis
3 In primary disorders of the blood forming organs. Leukemia, pernicious anemia, chlorosis, hemachromatosis; polycythemic splenomegaly.
4 In cirrhosis of the liver Syphilitic, alcoholic, hypertrophic or Hanot
5 Hereditary and family forms of splenomegaly: (a) With the congenital acholuric icterus: (b) with constitutional disturbances, dwarfing, etc
6 New growths and parasites: Sarcoma, primitive endothelioma of Gaucher (?), echinococcus and the schistosoma of Japan
7 Splenomegaly not correlated with any of the above or with any known cause; Banti's disease, with its three stages of (a) simple enlargement, (b) splenomegaly with anemia, (c) splenomegaly with anemia, jaundice and ascites

14 **Fatty Acid Intoxication.**- Guthrie distinguishes between fatty acid intoxication and acidosis and subacidosis The symptoms attributed to fatty acid intoxication are chiefly incessant vomiting, sometimes hemorrhagic, constipation or diarrhea, intense thirst, epigastric pain and tenderness, sometimes jaundice: rapid emaciation and prostration, air hunger, restlessness, irritability alternating with apathy, delirium, ending in drowsiness, coma and death The temperature as a rule is not high: it is seldom above 100 or 102 F., but sometimes in fatal cases there is hyperpyrexia and measly or urticarial or even purpuric rashes may appear. All the appearances of desperate illness are present from the first. Guthrie discusses the conditions in which acidosis or acid intoxication are met with, and sums up our knowledge on this point as follows: We may say without doubt that acidosis is present in diabetic coma, in postanesthetic toxemia, in acute yellow atrophy, in cyclical vomiting, and in a large variety of other morbid conditions, but we are not justified in concluding that fatalities in any such cases are due to fatty acid intoxication alone.

The following are his conclusions: Acidosis or fatty acid intoxication may occur in all cases in which the liver is excessively fatty Acetone bodies being chiefly formed from fat, it is reasonable to suppose that their origin in these cases is in the liver and tissues Although a normal liver is able to deal with enormous quantities of fat in its cells, a liver whose functions are deranged may not be able to do so A liver may become superfatted as the result of: (a) Excessive supply of fats and (indirectly) of carbohydrates in diet. (b) Inability to metabolize fat supplied, or to make use of carbohydrates—glycogenic disorder—(? in cyclical vomiting). (c) Deprivation of carbohydrates (starvation). (d) As the result of sepsis, acute or chronic, or the action of specific organisms; for example, in gastrointestinal affections, or diphtheria or pneumonia (e) As result of poisoning by phloridzin, hydrazin, phosphorus, chloroform (f) The existence of a superfatted liver in itself is probably not dangerous, but it implies defective metabolism and oxidation as a rule. Should metabolism and oxidation be further perverted by the action of a general anesthetic, fatal toxemia, not attributable to fatty acid intoxication alone, but to a general breakdown of all hepatic functions—proteolytic, antitoxic, and glycogenic—may occur, and in extreme cases necrobiosis of the hepatic cells (acute atrophy) may result. (g) These results are not due to the specific action of chloroform alone, but may be the consequence of administering any general anesthetic in the presence of a fatty and disordered liver At the same time chloroform in these conditions is the most dangerous anesthetic of all. (h) In cases of preceding hepatic inadequacy, the administration of any general anesthetic may prove the last straw. (i) Treatment by alkalies or carbohydrates affords but slender hope of cure in postanesthetic intoxication. (j) Prophylaxis. Subjects of cyclical vomiting, perhaps those especially who live chiefly on fat and carbohydrates, are potential victims to postanesthetic intoxication. The danger is probably least toward the end, and greatest on the eve, of an attack of periodic vomiting. Anesthetics may be dangerous in cases of acute and chronic sepsis, whether due to specific organisms or to intestinal saprophytes. All these conditions are likely to be associated with fatty liver and consequent acidosis, with possible inadequacy of hepatic function in general. It is extremely doubtful if fatty acid intoxication is ever the sole cause of death Whenever there is reason to suspect the existence of fatty liver and possible hepatic inadequacy to deal with fat and carbohydrates, ether with oxygen would perhaps be the least dangerous form of anesthetic to use.

16. **Infantile Convulsions.**—Moon considers that an infantile convulsion is not a mere isolated phenomenon It is rather an outward and visible expression of some disturbance taking place in the higher levels of the brain which at times may be sufficiently great to give vent to this gross expression of itself; at other times it may manifest itself in minor fashions, such as enuresis, night terrors, violent outbursts of wrath, hallucinations, etc, the significance of which is unperceived.

20. **Ocular Tuberculin Reaction.**—Sequiera sums up the result of his observations strongly in favor of the reliability of this test for cutaneous tuberculosis In his experience every clinically tuberculous case has reacted and a negative reaction indicates that the cutaneous lesion is not tuberculous.

Medical Press and Circular, London.

October 14

22 Displacements of the Pelvic Organs A E Giles
23 Exophthalmic Goiter W B Warrington
24 Relation of Alcohol to Feeblemindedness W A Potts
25 *Three Signs for Diagnosis of Erysipelas G Milian

25. **Erysipelas.**—Milian discusses three objective clinical signs of erysipelas which he asserts to be absolutely constant and pathognomonic. We summarize as follows:

1. The sign of centrifugal maximum The most marked lesions are always situated at a spot at some distance from the starting point on the periphery of the patch, so also are the swelling and pain on pressure This sign is useful in distinguishing erysipelas from inflammatory troubles, dacryocystitis, dental abscess, parotiditis or mumps
2 The ear sign Owing to the close adherence of the dermis and perichondrium, and the absence of subcutaneous tissue in the ear, inflammatory processes stop short at the periphery, whereas erysipelas, being a dermatitis, spreads in the thickness of the skin itself, invading that of the ear as it does in any other part
3 The pain sign The erysipelatous patch is invariably exceedingly painful The patient invariably makes a grimace and shrinks when it is pressed, whereas in acute eczema and ophthalmic zona the parts are not so tender on pressure In dental abscess and dacryocystitis, however, the affections are both painful and tender, but in a different way

Clinical Journal, London.

October 14

26 Association of Jaundice and Enlarged Spleen, and Splenomegalic Jaundice H D Rolleston
27 Modern Treatment of Fractures by Direct Internal Splintage. E M Corner

Practitioner, London.

October

28 Preoperative Treatment of Non-Malignant Gastric Disease A E Barker
29 *Fracture and Refracture of the Patella, with Treatment E M Corner
30 Fracture of the Metacarpal Bones J A MacKenzie
31 *Necessity for End to End Apposition in Fractures of Long Bone H T Gray
32 *Color Vision and Its Relation to Other Senses G A Stephens
33 Venereal Diseases J E Lane
34 Recent Neurologic Literature W Harris
35 The Theory and Employment of Bier's Treatment by Passive Congestion in Rheumatoid Arthritis, Tuberculosis, Sepsis and Various Other Conditions A W Wakefield
36 The General Practitioner and Deaf Mutism D M MacKay

29 **Fracture of the Patella.**—Corner makes a careful study of fractures about and below the center of the patella and of refracture of the patella, and gives statistics of cases of fracture of the patella, admitted to St Thomas' Hospital, London, from 1890 to 1907, inclusive, and also statistics of cases of refracture. He discusses treatment and says that the study of the results of suturing fracture of the patella have demonstrated the following points.

1 Internal splints lead to absorption of the hard substance of the bone round them
2 This leads to the loosening of the internal splint, and therefore more easily to its breaking with a sudden effort, and to some separation of the fragments
3 With the early practice of massage and movements the fragments are still further separated, and the union between them is fibrous, not bony
4 A perfectly functional limb is obtained with such a fibrous union. Bony union is unnecessary to an excellent result

5 Limitation of movement, after the fracture, is caused by the adhesion or cicatricial contraction of the attachments of the patella to the femur, putting the quadriceps femoris at a mechanical disadvantage

6 The advantage of direct and internal splintage, suture of the fragments, lies in its allowing movements of the joint to be begun early, preventing any limitation to the movements of the patella on the femur.

7. From the point of view of the subsequent value of the limb, it makes little or no difference whether the union between the fragments is fibrous or bony, provided that the patella moves freely on the femur

8 The nature of the internal splint used is a matter of indifference; it may be silver wire, copper wire iron wire or silk An absorbable suture is not a good internal splint, because its presence will be required for some weeks at least

9 A wire is always loosened, even if bony union takes place between the fragments

10 It is not clear that it is better to use two wires than one

11. Treatment after operation must be directed to getting a movable knee joint and a patella freely movable on the femur

12. For success, the operation area must not suppurate

13 If operation is to be undertaken, it should be done as soon after the accident as is convenient, and before any reparative inflammation has stiffened the torn structures and increased the difficulty in bringing the fragments together and in moving the joints afterward Union by first intention can then be obtained between the fragments.

31. End-to-End Apposition in Fractures of Long Bones.—Gray quotes the statement of Robert Jones (*Lancet*, March 21, 1908) that "end-to-end apposition is not necessary to the perfect function of a limb." and that "disability is often due to injury of soft parts and can not be even remotely affected by the closest and most perfect opposition." Gray is convinced that statistical inquiry in a large series of cases would refute these statements. He discusses the question at length and says in conclusion that a useful limb may result from conservative measures, after a lapse of months or possibly years, in some cases (depending on the severity of the injury), when the ends are not in apposition. This result may be brought about by careful attention, after accurate diagnosis, combined with a considerable proportion of good fortune. That a functionally perfect limb is likely to be obtained under such conditions, even with the lapse of years (especially in the lower limb), experience compels him emphatically to deny.

32. Color Vision.—Stephens quotes the words of Professor Steinheil, in 1838, as follows "Had we the means which could stand in the same relation to electricity that the eye stands to light, nothing would prevent our telegraphing through the earth without conducting wires" By the aid of a 'coherer," which he describes, Stephens points out that we can now telegraph without wires, and adds that our knowledge of this instrument helps us more thoroughly to understand the method by which the eye conveys to the brain the impressions of sight. In the course of his experiments, which he describes, Stephens found that if he caused a photographic plate to be vibrated by sound, it became much more sensitive to light, and a photograph could be taken by such means in a fairly dark room He has shown by the galvanometric change that sensitiveness to light is accompanied by a current Anything that tends to increase such a sensitiveness must do it by producing either a current, or, what is practically the same, greater conductivity Hence, one is driven to the conclusion that sound, light and the Herzian waves all produce their effects by increasing conductivity, by a rearrangement of minute particles In the case of the retina, however, the light falls on living active particles which move in response, and which, by virtue of their own vitality (in contrast to the photographic film), as quickly resume their rest in position. The dead particles of the film move in the same way, whether stimulated by violet, yellow or red rays, but the living particles of the retina move differently for each color, for violet quickly and in one direction, for red slowly and in another direction Each particular movement, however, is accompanied by an increased conductivity, resulting in the completion of the cerebral circuit, and an intelligent appreciation of the original stimulus. Among such vital particles there must be much variety of activities, and it is in consequence of such variety that we find the different responses in different persons to color sensations. In regard to hearing, Stephens suggests that such a rearrangement with altered conductivity takes place in the case of the living cells of the auditory organ when acted on by sound vibrations The dead particles of a vibrating plate can convey but one or two changes, whereas the living cells of the organ of Corti, in consequence of their vitality, can participate in a large number of movements, sufficient in their permutations and combinations to account for their response to all the audible vibrations He applies similar reasoning to the senses of taste and smell, and says in conclusion: "Light, heat and sound are all forms of motion, and, as such, are all mutually interchangeable; and the theory advanced here is one in which the response in the different sense organs is held to be but an example of that mutual interchange. This interchange may account for certain sound vibrations causing movements of the retinal cells, and being the means whereby certain sounds in some persons are associated with certain colors. Such a perversion' of movement may possibly be found to be associated both with optical delusions (sic), and also with mental delusions"

Indian Medical Gazette, Calcutta.

September.

37 Liver Abscess D G Crawford
38 *Outbreak of Epidemic Dropsy in the Lunatic Asylum, Dacca. R N Campbell
39 Retroperitoneal Lipoma Successfully Operated On W. J. Wanless
40 Rat Destruction in Kamptee M F. Reaney and G. E Malcomson
41 Preparation of Whey J R. Williamson
42 Abscess of the Spleen. R. B. Bakshi.

38 Epidemic Dropsy.—Campbell discusses an epidemic of dropsy that occurred in the lunatic asylum at Dacca, India, in March, 1908 The number of cases was 155. The epidemic was preceded by an outbreak of diarrhea, accompanied by fever in 62 cases Dropsy affected mainly the lower extremities, rash was present in only 3 patients. There was also derangement of the digestive and circulatory systems; there was nothing abnormal in the urinary system, and apparently no marked nervous disturbances. Cardiac weakness remained for a long time afterward. The prognosis is favorable. The treatment consists of absolute rest, good and nourishing diet, calcium chlorid with a cardiac and hematic tonic of iron, dilute phosphoric acid, tincture of digitalis, and liquor strychninæ (B P) As to its causation, he discusses the possibilities of a prevailing antecedent wasting in disease, air convection and water convection, site infection, communicability and communication through an intermediate host, and negatives all these He then takes up food poisoning and excludes milk. Dal oil and fish are possible but improbable sources. He regards rice as probably the cause, believing that rice from improper storage develops a mould or fungus or rust, which, when taken, acts as an intestinal irritant or poison, which affects the sympathetic nervous system, hence the dilatation of the heart and the leucocytosis and the oil globules in the stools This fungus has an action allied to ergot, but exactly the opposite It may also resemble muscarin slightly. The conclusion he comes to is that it may be due to a ptomain poison or bacillus in the fish, but is much more likely to come from a rust or fungus growth on the rice, which has a special effect on the sympathetic nervous system. The disease is certainly not communicable from man to man or by an intermediate host.

Annales de Dermatologie et de Syphiligraphie, Paris.

August September, IX, Nos 8 9, pp. 465 543

43 Epididymitis, Orchitis and Vaginalitis from Sporotrichum beurmanni (Etude des sporotrichoses internes) De Beurmann, Gougerot and Vaucher.
44 The Syndrome of Pellagra. J Nicolas and A Jambon Commenced in No 7.
45 Significance of forms of Non-Acid-Fast Tubercle Bacilli in Relation to Bacillus of Leprosy. (Signification des formes non acido résistantes du bacille tuberculeux. Leurs rapports avec le bacille de la lèpre) W. J. Terebinsky
46 Syphiloma of the Uvea. (Etude d' un oeil atroplé par syphilome uvéal) J. P. Tournex.

Annales de l'Institut Pasteur, Paris.

September, XXII, No 9, 689 751

47 *Vaccination of Cattle Against Tuberculosis (Vaccination des bovidés contre la tuberculose) A Calmette and C Guerin
48 Acetic Aldehyd in Wine Its Origin and Effects (L'aldéhyde acétique dans le vin) A. Trillat
49 Zinc in Plants M Javillier
50 Fixation of Complement. (Mécanisme de la réaction Bordet-Gengou) M Crendiropoulo.

47. Abstracted in THE JOURNAL, Oct. 24, 1908, page 1446.

Archives Générales de Chirurgie, Paris.

September, II, No. 9, pp. 225-314.

51 Spontaneous Torsion of Normal Testicle. (Bistournage spontané d' un testicule non ectopique.) M. Chevassu.
52 *Ablation in One Piece of Epithelioma of the Penis and Its Lymphatic Territory. (Ablation en bloc de l'epithélioma pénien.) Mauclaire.

52. **Extensive Ablation of Epithelioma of Penis.**—Mauclaire found that the epithelioma had developed on the basis of a wart in one of his four cases and on phimosis in two others. The literature—which he reviews very fully—also indicates that the cancer is liable to develop on a wart, leucoplakia, or phimosis in a large proportion of cases. Infection of the lymph nodes is variable in its occurrence and spread, but cancerous degeneration may be observed in the iliac and inguinal glands when the primary cancer is first recognized. It is important, therefore, to remove the connected lymphatics on both sides throughout the inguinal and crural regions, taking out the whole in one block. The chances for complete cure are thus enhanced and the danger of disseminating cancer germs reduced. Two of his patients are still in good health; another succumbed to the progress of the cancer cachexia, and the fourth died of a brain affection two years after the operation. He gives an illustrated description of the technic he followed.

Archives des Maladies du Cœur, Paris.

September, I, No. 9, pp. 505-552.

53 *Arterial Pressure in Tabes and Its Modification Under Influence of Gastric Crises and Lightning Pains. J. Heitz and M. Norero.
54 *Pathologic Anatomy of Hemophilia. C. Esmein.

53. **Arterial Pressure in Tabes.**—Heitz and Norero report research in eight cases of tabes with more or less ataxia undertaken to determine the modifications in the arterial pressure under the influence of gastric crises and lightning pains. During the gastric crisis there is generally a vasoconstricting spasm, except in advanced cases, in which the reflex phenomena are less active. The peripheral lightning pains seem to determine hypertension. Inhalation of amyl nitrite is liable to relieve the pains at once, both abdominal and peripheral. This relief may be transient, but it is liable to prove permanent even after the blood pressure has returned to its normal level. Daily injections of 4 cg. sodium nitrite, even kept up for a long time, do not seem usually to have any effect on the pain or hypertension. The pulse is accelerated during the gastric crises, contrary to the condition observed in lead poisoning or gallstones. The experiences related seem to show that the cardiovascular system does not suffer from the repetition of the tabetic pains as much as one would suppose.

54. **Pathologic Anatomy of Hemophilia.**—Esmein found at autopsy of a hemophilic 16 necrotic lesions in the liver causing destruction of the lower part of the liver. This change had undergone an acute exacerbation, which proved fatal. The case was evidently one of acquired hemophilia, as there was no family history of such an affection, and the symptoms had been observed only for one year, in a previously healthy youth. The findings in the liver were exactly the same as those observed in animals in intoxication with chloroform or phosphorated oil. A similar hemorrhagic tendency has been reported in scarlet fever and typhoid, diphtheria and appendicitis, traceable to the same centro-lobular degeneration of the liver, and the case described differs from these only by the absence of a precise etiology to which the lesion in the liver can be attributed.

Bulletin de l'Académie de Médecine, Paris.

October 6, LXXII, No. 31, pp. 165-200.

55 Treatment of Recurring Pleural Effusions with Injections of Air. (Traitement des épanchements pleuraux récidivants par les injections gazeuses stérilisées.) A. Netter.
56 *False Heart Disease and Functional Cardiopathies. (Les fausses maladies du cœur et les cardiopathies fonctionnelles dans leurs rapports avec le service militaire.) H. Huchard.
57 *New Research on Serotherapy of Nephritis. J. Teissier.

56. Abstracted in Paris letter, October 30, page 1523.

57. **Serotherapy of Nephritis.**—The method followed by Teissier is the subcutaneous injection of blood serum from the renal vein of the goat. It is based on the research of Vitzou of Bucharest and on Turbure's clinical experience. The latter in 1896 reported a remarkable case of chronic nephritis, with tendency to uremic convulsions, in which essential improvement was obtained by six injections of 15 c.c. of defibrinated blood from the renal vein of the dog. The principle is different from that of organotherapy such as Dieulafoy, H. Frenkel and Renaut have used in kidney disease. The serotherapy is based on the assumption that the venous blood issuing from a glandular organ must contain the internal secretion of the organ in especially large proportions. Injected into a nephritic, an unmistakable tonic effect is observed, dyspnea is reduced and the amount of albumin in the urine rapidly declines, while the urine becomes very much less toxic. Teissier has applied this method of treatment in seven cases of nephritis during the past year, and the results observed have been encouraging. It is harmless, he asserts, and is indicated in every case of acute or chronic nephritis accompanied with symptoms of autointoxication. The best results may be anticipated when the autotoxic disturbances are more of a passing storm from exacerbation of a chronic lesion or during an acute nephritis. He ascribes the efficacy to the action of the internal secretion on the other glands, especially on the liver, and on the emunctories in general. In obtaining the blood from the goat he warns that it is necessary to throw a ligature around the renal vein just below its junction with the vena cava. He made two or three injections of from 10 to 20 c.c. of the serum in each case, and reports three of the cases in detail. One of the patients was a boy of 11, one was a woman of 47, and one a man of 70. In the last case malaria, arteriosclerosis and aortitis aggravated a sclerous nephritis which had entered a menacing phase, with dyspnea, absolute insomnia, delirium and Cheyne-Stokes breathing. Fifteen c.c. of the serum were injected and improvement was soon manifest. By the second day the Cheyne-Stokes type of breathing had become transformed and the albumin had dropped to one-third of the previous percentage. A second injection the third day accentuated the improvement, and in less than three weeks the patient was up and attending to business.

Presse Médicale, Paris.

October 3, XVI, No. 80, pp. 633-640.

58 Chronic Tuberculous Endocarditis with Tubercle Bacilli. L. Lortat-Jacob and G. Sabareanu.

October 7, No. 81, pp. 641-648.

59 Operative Technic in Craniectomy. T. de Martel.

October 10, No. 82, pp. 649-656.

60 Treatment of Congenital Luxation of the Hip Joint. M. Ducroquet.

Semaine Médicale, Paris.

October 7, XXII, No. 41, pp. 481-492.

61 *What the First International Urologic Congress Has Accomplished. (L'œuvre du premier Congrès International d'Urologie.) C. Achard.

October 15, No. 42, pp. 493-504.

62 Formation of Placenta. (La placentation de la femme.) R. de Bovis.

61. See THE JOURNAL, October 31, page 1553.

Berliner klinische Wochenschrift.

October 5, XLV, No. 40, pp. 1793-1832.

63 *Pathogenesis of Eclampsia. L. Mohr and R. Freund.
64 *Causal Germ of Scarlet Fever. (Scharlacherreger.). N. T. Gamaleia.
65 Determination of Antigens and Antibody in Blood in Typhoid. (Nachweis der Antigene und des Gegenkörpers im Blute von Typhuskranken.) L. Zupnik and W. Spät.
66 Specific Neurotoxins. M. Goldbaum.
67 *Atrophy of Kidney with Fistula in Ureter. (Nierenatrophie bei Ureterfistel.) R. Asch.
68 Virulence-Enhancing Property of Bile in Typhoid and Colon Bacilli Infections. (Virulenzerhöhende, aggressinartige Eigenschaft der Galle bei Infektion mit Typhus- and Colikulturen.) E. Schlesinger.
69 Quality or Quantity in Progress of Civilization? K. Bornstein.
70 Experimental Absorption of Tubercle Bacilli from Digestive Tract in Java. (Resorptionsinfektion mit Tuberkelbacillen vom Magendarmkanal aus beim Karbau.) J. de Haan.
71 Oxalic Acid Poisoning. (Oxalsäurevergiftung.) B. Winnogradow.
72 Simplication of Esophagoscopy. (Vereinfachung der Technik der Oesophagoskopie.) P. Rewidzoff.

63. **Pathogenesis of Eclampsia.**—Mohr and Freund have succeeded in isolating a specific toxin from the placenta, and they thus obtain an important support for the theory which ascribes eclampsia to intoxication from the placenta. This specific toxin is the same as that which Tallquist isolated from the body of the tapeworm and from the intestinal mucosa—merely oleic acid or sodium oleate. This normally occurring, apparently innocent substance is thus able to acquire toxic properties under certain conditions, especially a hemolytic property. They think that their demonstration of a hemolysin of definite chemical constitution in the placenta throws much light on the normal and pathologic conditions of pregnancy. The oleate from the tapeworm causes pernicious anemia when injected into animals. It is possible that even in normal conditions the maternal red corpuscles are naturally destroyed by this hemolysin to supply the fetus with iron.

64. **Causal Germ of Scarlet Fever.**—Gamaleia ascribes the scarlatinal infection to a germ resembling a forget-me-not blossom. The germs show up well with vital staining with neutral red. He found his parasite in the skin, throat, blood, spleen and kidney. Some of its forms correspond to Mallory's rosetta formations and Prowazek's parasites. He calls it the *Symanthozoon scarlatinæ*.

67. **Atrophy of Kidney with Fistula in Ureter.**—In several cases of fistula in the ureter, Asch has found that the connected kidney has gradually ceased functioning, its mate assuming the entire task of urine production. Others have assumed from the healing of the fistula that the ureter had become permeable, but his cases show that the healing was merely the natural result of complete atrophy of the kidney. In one case the fistula persisted and the patient insisted on having the kidney removed. It was found completely atrophied. He warns that in a case of a fistula in the ureter, if there is pyelitis in the connected kidney, the implantation of the ureter in the bladder is dangerous, as the infection is liable to cause cystitis and possibly to spread to the sound kidney. When a long time has elapsed and the implantation of the ureter in the bladder has been deferred on account of cystitis or for other reasons, it is wise to see whether the fistula will not heal spontaneously in consequence of the atrophy of its kidney. The sound kidney gradually assumes the entire task of secretion.

Deutsche medizinische Wochenschrift, Berlin.

October 8, XXXIV, No. 41, pp. 1753-1792.

73 *Whooping Cough. (Behandlung des Keuchhustens.) E. Feer.
74 Movable Cecum as Cause of Disturbances Ascribed to Chronic Appendicitis. (Das Coecum mobile als Ursache mancher Fälle von sogenannter chronischer Appendicitis.) Wilms.
75 Conditions After Lightning Treatment of Cancer. (Klinische Beobachtungen nach Fulgurationsbehandlung maligner Tumoren.) K. Schultze.
76 Practical Value of Serum Test for Syphilis. (Serodiagnostik bei Syphilis.) R. Ledermann.
77 *Two Cases of Typhus at Göttingen. (Eine kleine Epidemie von Fleckfieber.) F. Port.
78 Importance of Roentgen Rays in Rhinology. M. Scheier.
79 Late Asphyxia After Total Ablation of Larynx. (Spätasphyxie nach totaler Kehlkopfexstirpation.) W. Mintz.

73. **Whooping Cough.**—Feer declares that the treatment of whooping cough is still a difficult matter, and that there is as yet no specific remedy, but that it is possible by dietetic measures and hydrotherapy with quinin and sedatives to influence the affection favorably. He cites statistics which show that in Prussia in 1892 8,400 infants under one year succumbed to whooping cough; 3,000 to measles; 5,700 to diphtheria and 740 to scarlet fever. Between the ages of 1 and 4 years the figures were, respectively, 4,200, 5,100, 12,900 and 2,000. Between 4 and 6 the proportions were reversed, the figures being 730, 1,250, 10,000 and 1,500. The fatalities from whooping cough are seen to be much more numerous among infants, and he consequently urges the greatest care in keeping children suspected of infection with whooping cough from day nurseries, kindergartens, etc. His experience has shown that the disease is acquired only by direct contact, and that the condition is much more virulent during the early catarrhal stage. A frequent source of infection is in the specific pertussis of adults, which runs a typical course without the spasmodic cough, and consequently is not recognized. The sick should be isolated and kept away from children until the cough has disappeared, but the other children in the family may escape infection if the sick are kept in separate rooms from the other children, even if waited on by the same person. All that is necessary is that the attendant should wash her hands and wear a sleeved apron in the sick-room. The trouble is usually that the "healthy brothers and sisters" are already infected before the pertussis is recognized. For this reason they should never be sent away into other families or into the country until they have remained free from catarrh and cough for ten or fourteen days. The germ is so vulnerable that disinfection of the rooms is not necessary. It is a great gain if children can be protected from whooping cough until they are at least three years old. Every child with catarrh of the air passages during the prevalence of pertussis should be treated as suspicious and be kept away from small children. The psychic element is of great importance in the disease, and children with a tendency to convulsions have it more severely. Fresh air and freedom from dust are indispensable in management of a case, as well as correct psychic treatment. Older children can sometimes suppress an oncoming attack of coughing by deep breathing. He regards quinin as useful in the first stage, with bromoform if a sedative is required, or codein with very severe and frequent attacks. Somnolency and subsidence of expectoration contraindicate sedatives and demand energetic stimulants.

77. **Typhus.**—Port relates the history of four cases of typhus imported from Russia. The patients all recovered under Curschmann's method of unlimited fresh air: the windows were kept open night and day and the large room was well heated. He ascribes the absence of contagion of others to this abundance of fresh air. No other measures were required, not even the dietetic restrictions of typhoid.

Medizinische Klinik, Berlin.

October 4, IV, No. 40, pp. 1521-1558.

80 **Pathology and Treatment of Pyelitis.* L. Casper.
81 Diagnosis and Therapy in Laryngology without Specialist Training. J. Weleminsky.
82 Differential Diagnosis Between Appendicitis and Gynecologic Affections. (Appendizitis und weibliche Genitalerkrankungen.) Pankow.
83 Technic for Intraspinal Administration of Antimeningococcus Serum. (Technik der intralumbalen Anwendung des Meninkokkenheilserums—Kolle-Wassermann.) E. Levy.
84 Ovariotomy During Delivery. (Ovariotomie während der Geburt.) K. Hartmann.
85 *Infection of Eczematous Child from Vaccinated Brother. (Infektion eines Kindes mit generalisierter Vakzine, übertragen von den normalen Impfpusteln des Bruders.) E. Kobrak.
86 *Endobacillary Albuminoids and Serum Treatment of Tuberculosis. (Endobazilläre Eiweisskörper.) G. Deycke and H. Much.

80. **Pyelitis.**—Casper reports four cases of pyelitis as types. In the first case a puerpera presented signs of septic infection, and the urine from both ureters contained pus and staphylococci. The process seemed to be most pronounced in the right kidney, and as the patient was in a threatening condition the right kidney was exposed and incised. No circumscribed focus could be detected in the kidney, but fever and chills subsided at once after the operation, and the patient entered on convalescence. The infection in the second case had evidently proceeded from an old parametritic exudate which occasionally had given trouble. The right kidney became tumefied, and chills and fever came on every evening; streptococci were numerous in the urine sediment. On a diagnosis of infectious pyelitis the patient was ordered to drink ten liters of fluid a day, in the form of tea, milk, mineral waters, lemonade and soups, and hexamethylenamin (urotropin) was given in large doses, up to 3 gm. (45 grains) a day. Under this flushing out of the system the infectious disturbances promptly subsided. In the third case the pyelitis was bilateral and the urine from both ureters contained various cocci and bacteria. The kidney functioning was persistently good. After failure of the copious drinking and administration of hexamethylenamin, he rinsed out the pelvis of each kidney with a 1 to 1,000 solution of silver nitrate, gradually increasing the strength to 1 to 400. This local treatment was done four times, and the urine rapidly cleared up and the general health improved. In the fourth case he applied the same local treatment to an old,

breathing, the so-called "heart pain" and palpitations—the whole being the result solely of a neurosis involving the diaphragm—"phrenocardia." The patient complains of a sensation as of mechanical hindrance to breathing; he is unable to breathe freely, although the condition does not suggest dyspnea. The respiration does not become accelerated, and it is possible for the patient to make a deep sighing inspiration and energetic expiration. This sighing breathing may occur at various intervals, and may annoy the patient very much: it is most noticeable when he is agitated. The diaphragm is found to be usually low, lower on the left than on the right side, and all the disturbances are due to a neurotic retraction of the diaphragm. It is not exaggerated by physical exertion. The pain in the heart region resembles the pain of a cramp in the calf. It is located below and to the left of the left nipple, and the patient holds his breath during the pain. The attacks generally occur in the evening. Another symptom is the palpitation or vibration or sense of emptiness in the heart region and there may be other nervous and vasomotor disturbances. Herz ascribes the phrenocardia to emotional factors, as a rule, and treatment should rely mainly on suggestion and soothing hydrotherapy, after removing the cause. The affection responds readily to such measures, he affirms.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart.

LXII, No. 3, pp. 393-643. Last indexed September 5, p. 877.

116 *Etiology and Treatment of Rupture of Uterus. J. Hartmann.
117 Ectopic Heart in Living Child. (Ectopia cordis subthoracic.) M. Greiffenberg.
118 *Posterior Longitudinal Incision of Cervix. (Hintere sagittale Diszision der Cervix uteri.) L. Herzl.
119 Inflammatory Proliferation of Mucosa in Fallopian Tube. (Adenomähnliche Wucherungen bei einer nach vaginaler Totalexstirpation prolabierten Tube.) M. Neu.
120 *Experimental Study of Operative Treatment of Acute Puerperal Peritonitis. W. Zangemeister.

116. Rupture of the Uterus.—Hartmann relates some ex- riences and reviews those reported from other clinics, the dings emphasizing the importance, comparative safety and cellent results of vaginal total extirpation of the ruptured erus as deserving more extensive application. Removal of e ruptured puerperal uterus by the vaginal route is a comparatively simple operation, while this frees the woman forever from the danger of consequent rupture in the cicatrix. This vaginal operation seems to have been performed in 27 cases besides the two he reports, and 15 of the patients recovered. In 8 of the 14 fatal cases the women were moribund, and when it is considered that so many of the patients recovered when the conditions were apparently desperate the results must be regarded as very satisfactory. Among the cases were some in which the women were almost bloodless or had high fever, placenta prævia, peritonitis, or escape of the entire contents of the uterus into the abdominal cavity. He remarks, in conclusion, that the treatment of rupture of the uterus belongs to the specialist after the first urgent measures.

118. Posterior Longitudinal Incision of the Cervix.—Herzl applies the term posterior sagittal discission to the slitting of the posterior wall of the cervix in stenosis of *the cervical* canal causing dysmenorrhea and sterility, no matter whether the stenosis involves the internal os in consequence of anteflexion of the uterus at an acute angle, or merely the external os is affected. This form of anteflexion of an infantile uterus is a special indication for this discission on the median line. In 22 of the 27 patients in whom this operation was indicated, dysmenorrhea was the complaint, and in 5 sterility. The operation cured the dysmenorrhea in nearly 62 per cent., with partial benefit in 8 cases. In the 41 cases on record in which the operation has been performed for sterility, pregnancy followed in 17.07 per cent. The incision is carried up to the internal os and the mucosa is sutured to the mucosa of the vagina. A suture at the end of the incision is taken sagittal through the mucosa of the cervix to *unite it* with that of the vagina, thus effectually preventing the growing together of the lips of the incision. The details of his 27 cases are tabulated.

120. Experimental Study of Operative Treatment of Acute Puerperal Peritonitis.—Zangemeister advocates combination of serotherapy with removal of the primary infectious focus The prospects are much more favorable than with either alone. Under all circumstances the entire uterus must be removed if the results are to approximate those obtained in animals. Only the abdominal route permits effectual extirpation of the uterus and adnexa, he says.

Zentralblatt für Chirurgie, Leipsic.

October 10, XXXV, No. 41, pp. 1193-1224.

121 *Method of Expelling Blood from Lower Half of Body.(Zur Blutleere der unteren Körperhälfte.)) Momburg.

121. Momburg's Method of Expelling Blood from Lower Half of the Body.—Momburg states that the belt drawn tight around the waist, a rubber tube being used for the purpose, is wound around the waist until the pulse in the femoral artery ceases to be perceptible. After each turn of the belt the pulse is tested, and it is not wise to apply more turns of the belt than are needed to suppress the pulse in this artery It is wiser also to apply a band to the leg and thigh on ea side so that the belt and these bands can be loosened in tu thus allowing the blood to return less abruptly to the low half of the body. His experience has shown that the meth is applicable under nearly all conditions. Very muscular p sons may require more turns of the constricting belt— has never had to make more than four turns. He has appli this technic *in three* cases, leaving the belt in place for or 43 minutes. The pain of the constriction he relieves a little morphin. The blood can be expelled from the p is almost entirely in this way if the legs are wound up the toes first, to expel the blood from them. After the *stricting belt* is applied, *the* bandages *on the* legs are removed and the patient is placed in a position so that the pelvis is considerably higher than the legs, which are allowed to hang down. The blood left in the pelvis then runs down into the legs.

Zentralblatt für Gynäkologie, Leipsic.

October 10, XXXII, No. 41, pp. 1329-1360.

122 Perforation of Uterus with Injury of Intestine. (Zur Kasuistik der Uterusperforationen mit Darmverletzung.) P. T. Ssadowski.
123 **Internal* Secretion of Corpus Lutem *and* Reciprocal Relations of Ovary and Pancreas. (Eierstock, Corpus luteum und Langerhans'sche Zellinseln.) S. Rebaudi.
124 Radical Operation for Inversion of the Vagina and Enterocele After Vaginal Hysterectomy. C. H. Stratz.
125 *Absorbing Power of the Vagina, Especially for *Tuberculin.* (Resorptionsfähigkeit der Scheide.) M. Schwab.
126 Large Fibroma in Abdominal Wall. Plastic Operation. (Bauchdeckenfibrom.) T. Schultz.
127 *Hysterectomy for Menstrual Reflex Epilepsy. (Totalexstirpation aus seltener Indikation.) Weinberg.

123. Functional Connection Between Ovary and Pancreas.—Rebaudi has been conducting extensive research at Bossi's clinic at Genoa to study the functional connection between the ovaries and pancreas, and *believes that* he has demonstrated that the islands of Langerhans form an integral part of the great system of organs with an internal secretion. When the functioning of the corpus luteum was *deficient,* the islands of Langerhans in the pancreas became hypertrophied and were evidently doing extra work; *they* also showed marked changes after removal of both ovaries, and similar changes were observed after destruction of the *corpora lutea* alone. He accepts this as evidence that the corpus luteum must be regarded as an organ of internal secretion, *and* as the chief if not the only element of the internal *functioning* of the ovary.

125. Slight Absorbing Faculty of the Vagina, Especially for Tuberculin.—Schwab reports negative results *from* his attempts to utilize the vagina for diagnostic application of tuberculin. Only extremely soluble substances, like the iodin and salicylate salts and dyes, were absorbed. No pharmacologic action was apparent, even with 5 *gm. of* paraldehyd, 4 of chloral, 3 of tannin or 2 of salol. Glycerin is not a proper vehicle, he says, when the aim is *to promote* absorption, as the glycerin induces a current outward. Only with extremely soluble drugs, such as iodin, is its use permissible.

127. Reflex Epilepsy from Menstrual Influences.—Weinberg's patient was a woman of 38, a *v-para,* who for seven year had had epileptiform seizures at the onset of the *menses.* He *removed the uterus* and adnexa. Cystic degeneration of the ovaries was found. During the five months since there has been no recurrence of the disturbances. He ascribes them to reflex epilepsy proceeding from the lower abdomen.

Gazzetta degli Ospedali e delle Cliniche, Milan.

October 4, XXIX, No. 119, pp. 1257-1272.

128 *Lime in Origin and Treatment of Convulsions. (Il calcio nella patogenesi e terapia delle forme convulsive. Teoria paratiroidea.) T. Silvestri.
129 *Anasarca from Retention of Urine. E. Magni.
130 *Smith's Venous Souffle. (Il soffio venoso di Smith.) F. Laureati.
131 *Tuberculous Peritonitis and Treatment with Iodized Gelatin. (Della peritonite tubercolare e sua cura medica mediante l'iodogelatina Sclavo.) U. Masi.

128. **Lime in Treatment of Convulsions.**—Silvestri presents arguments and the results of experiences in various countries which demonstrate that the tendency to convulsions is apparently the result of a lack of lime in the nervous system. Experimental and clinical research seems to indicate that the convulsions of infancy and pregnancy, as well as epilepsy, are the results of deranged metabolism of lime with a permanent lack of sufficient proportions in the nervous system. On the other hand, eclampsia in certain cases is the direct and exclusive consequence, he is convinced, of a parathyroid affection. Experimental studies confirm and reproduce what is observed in the clinic. His experience with seventeen epileptics treated with lime sustains this view of its etiologic importance. He administered calcium hypophosphite, giving daily 1.5 gm. (22.5 grains) for adults and one-tenth of this dosage for infants.

129. **Anasarca from Retention of Urine.**—Magni reports from Ruggi's clinic at Bologna two cases in which anasarca developed suddenly with retention of urine from enlargement of the prostate. When the patients entered the clinic the skin was dry, the pulse rapid, with intense thirst, dyspnea, albuminuria, and a systolic murmur, with cells and tube casts in the urine—the symptoms indicating a cardiac affection with nephritis, and the condition so serious that operative measures could not be considered. Catheterization of the bladder was followed by prompt subsidence of the anasarca, and in a few days nothing was left of the syndrome except the enlarged prostate which then could be operated on.

130. **Smith's Venous Souffle.**—Laureati has examined 363 children to learn the prevalence of Smith's sign of abnormal conditions in the thoracic glands. The head is turned back so that the face forms a right angle with the trunk. The stethoscope applied to the manubrium reveals a venous souffle coinciding with the systole of the heart. This sound gradually vanishes as the head is raised. Smith explains the phenomenon as due to the compression of the left *innominate* vein from enlarged glands. Laureati found this sign positive in 111 of the 363 children. The proportion of positive findings with this sign was larger than with Roentgen examination, and it thus revealed in a number of cases abnormal conditions in the thorax, which otherwise would have escaped detection. Negative findings are not conclusive, but positive findings indicate glandular trouble, generally of tuberculous origin.

131. **Iodized Gelatin in Tuberculous Peritonitis.**—Masi administered iodized gelatin by the mouth and applied iodo-iodid ointment to the abdomen in the three cases of tuberculous peritonitis here reported, and he ascribes the complete recovery to these measures. All were of the form with effusion and the iodized gelatin was well tolerated, while its action was prompt.

Policlinico, Rome.

October 11, XV, Practical Section, No. 41, pp. 1285-1316.

132 Differential Diagnosis Between Hydatid Cyst and Abscess in the Liver. (Diagnosi differenziale fra cisti da echinococco e ascesso del fegato.) G. Moro.

Norsk Magazin for Lægevidenskaben, Christiania.

September, LXIX, No. 9, pp. 833-940.

133 *Treatment of Lupus in Private Practice. (En ogsaa i den almindelige private praksis lettere gjennemførbar lupusbehandling.) C. Boeck.
134 Application of the Tonometer. (Tonometri.)) H. Schiøtz.
135 Orthodiagraphic Examination of Organs in Chest and Abdomen. (Om den orthodiagrafiske methodes anvendelse ved undersøgelse at bryst- og abdominalorganer.) S. A. Heyerdahl.
136 *Milk from Cows with Udder Affections. (Bør det være forbudt at sælge melk fra kjør med jurbetændelse?) V. Fürst.
137 The Milk Epidemic at Christiania. Melke-epidemien i Kristiania.) Y. Ustvedt.

October, No. 10, pp. 941-1036.

138 *Milk-Vegetable Diet in Pernicious Anemia. L. Nicolaysen.
139 *Blastomycetes in the Blood. (Blastomyceter i blodet.) Vedeler.
140 Subcutaneous Fat Tissue Necrosis. (Subkutan fedtvævsnekrose.) O. Berner.
141 Study of the Systole of the Auricle. (Om forkammersystolen.) S. Schmidt-Nielsen.
142 Medical Science in the Northland During the Middle Ages. (Nogle bemerkninger om middelalderens medicinske Videnskaben i Norden.) F. Grøn.

133. **Treatment of Lupus by the General Practitioner.**—Boeck has found that when pyrogallol is applied in a mucilaginous vehicle it is free from the disadvantages of other technics for local treatment of lupus. He makes the mucilage so that it will rapidly harden and form a compact covering over the lesion. A good formula for the purpose is:

℞.				
Pyrogallolis				
Resorcinolis				
Acidi salicylici	āā	3		gr. xlv
Mucilaginis acaciæ				
Talci pulveris	āā	2	5	gr. xxxviiss
Glycerini			30	gtt v

This is applied about 0.5 mm. thick and covered with a thin veil of cotton which hardens in the mucilage and protects it. Anything thicker becomes stiff and uncomfortable. It is a great advantage of this method of treatment that it is unnecessary to pay strict attention to the limits of the lesion. He leaves the application untouched for a week and then moistens and removes it, applying in place of the pyrogallol a lead salve for a time. When the surface is raw from removal of the scab or from the action of the caustic, he applies a local anesthetic to the part before each application of the salve or mucilage. When the caustic is to be applied again to the same spot, he allows granulations to form for a time, but not enough for complete healing. The comparative harmlessness and painlessness of this technic and the ease with which it can be applied to any part, even those regions which are particularly inconvenient for local treatment, and the possibility of applying this treatment directly, without any preliminaries, are important advantages in its favor for the general practitioner, while his experience with it in numbers of cases has thoroughly established its efficacy. In one case the lupus on the ear had resisted Roentgen treatment, but healed in eighteen days under this pyrogallol mucilage, and there has been no recurrence during the year since. In another case a boy of 10 had lupus in and on the nose which had become a large shapeless mass. Under this treatment for two and a half months the lupus retrogressed so completely that no one now would suspect that he had had any affection. This result was obtained without general anesthesia and almost without the least pain. Boeck generally concludes the course of treatment with the application of a 15 per cent. pyrogallol salve for a few days, using a 10 per cent. strength for the interior of the nose, and alternating with the lead salve tampons, preceded by application of a local anesthetic. The salve is never so painful applied inside *the nose as on the skin*, and he prefers the salve to the mucilage for treatment of the interior of the nose. The main point in treatment is to root out the last local traces of the disease even if this does not always prevent a recurrence, as the virus may still be circulating in the blood.

136. **Should Milk be Sold from Cows with Udder Abscesses?**—Fürst describes a small epidemic of gastrointestinal disturbances that followed the drinking of milk from a cow with a streptococcus process in the udder, *and urges that* the selling of such milk should be prohibited. He remarks that those persons who are opposed to prohibitive measures in regard to udder lesions in cows would *certainly* not like
have to drink milk containing pus from abscesses of o
kinds. Another communication in the same number
to an epidemic of sore throat, which was likewise trac
streptococcus udder affection in a cow. Streptococci
the udder, and in the throats of the patients beha
the microscope, in stains and in inoculations
identical in every respect.

138. **Milk Vegetable Diet in Pernicious Anemia.**—Nicolaysen has been practically applying Grawitz' assumption that pernicious anemia is the result of production of toxins from excessive amounts of albumin in the diet. Grawitz published some time ago the histories of five cases of pernicious anemia in which remarkable improvement was obtained by lavage of the stomach and restriction of the diet, with nutritive enemas until the acidity of the hypoacid stomach secretion returned to normal. Nicolaysen treated a man of 33 on these principles except that he did not attempt lavage of the stomach owing to the patient's repugnance. Blood examination showed 1,230,000 reds, hemoglobin, 50 per cent. Diet was restricted to milk and vegetables, bread and fruit, and arsenic was taken continuously. In two months the reds had increased to 3,410,000 and the hemoglobin to 80 per cent., the *improvement continuing until full earning capacity* was restored in two more months: and it has persisted during the *four years since. The second patient* was a man of 26 who had suffered from occasional headache and vertigo since boyhood, and had always been rather pale and thin. When first seen the reds numbered 2,200,000; hemoglobin, 45 per cent. He was placed on a restricted milk-vegetable diet with iron and arsenic, but the pernicious anemia continued a progressive course unmodified. These experiences confirm the importance of bearing Grawitz' statements in mind when confronted with a case of pernicious anemia, as a certain proportion of such cases certainly owe their origin to disturbances in the digestive tract, and restoration to normal in this respect is followed by rapid and permanent recovery.

139. **Blastomycetes in the Blood.**—Vedeler has found vegetable cells, blastomycetes, in fresh human blood and urine using a technic which gave an unusually thick layer of blood for examination under the microscope, staining with Lugol's solution and mounting in balsam. He examined 221 patients with various gynecologic affections, or pregnant women, and found elements such as he illustrates in all but 15, also in the umbilical cord of 2 new-born children. He has found these elements also in the saliva, in breast milk and in leucorrhea, and in three calves and three mice. He found these botanical cells also in benign and malignant tumors. He asks in conclusion whether bacteriology has not been proceeding in too one-sided fashion hitherto.

Upsala Läkareförenings Förhandlingar.

XIII, No. 6, pp. 397-534. Last indexed August 29, p. 800.

143 *Primary Tumors in the Heart. (Bidrag till kännedomen om de primära hjärttumörerna.) E. Ericsson.
144 *Milk-Secreting Cyst in the Breast. (Bidrag till de s. k. galaktoceles genes.) T. J. Hellman.
145 *Solid Teratomas of the Ovary. C. O. Forselius.
146 *Involution of the Thymus. (Studier öfver thymusinvolutionen.) A. Jonson.

143. **Primary Tumors in the Heart.**—Ericsson has collected from the literature 41 cases of neoplasms in the heart, and describes a fibrosarcoma personally observed. Also a pseudotumor which was in reality a polypous thrombosis undergoing organization. These tumors seem to occur more frequently in the septum, suggesting that they originated in aberrant cells. His patient was a man of 38 who had always had some heart trouble and was admitted to the hospital with the diagnosis of myocarditis complicated by bronchitis and pulmonary edema. Autopsy revealed a polypous tumor in the left ventricle 7 x 3.5 to 5 x 2 to 4 cm., and there was complete adhesion of the sheets of the pericardium.

144. **Milk-Secreting Cyst in the Breast.**—Hellman's patient was a girl of 17 nursing a six-months babe. A tumor about the size of a nut was noticed in the second month of pregnancy, and had greatly increased in size. It was evidently a mammary adenoma, and it participated in the secretion of
lo milk. The lack of outlet for the secretion caused necrosis of
inte tissue inside the neoplasm, which involved the epithelial
vagin e and was beginning to encroach on the interstitial. If
throug necrosis had proceeded further, the results would have
vagina, typical "butter cyst," "solid galactocele" or "cheesy
the lips of reviews the literature on these milk cysts, and re-
lated. comparison a case of pure mammary adenoma
120. Exper[illegible]d to show under the microscope complete retro-
Puerperal Perit previously necrotic tumor.

145. **Solid Teratomas of the Ovary.**—Forselius' first patient was a woman of 24. She is in good health eighteen months after removal of an ovarian dermoid cyst. The second patient was a child of 3, and the first symptoms were noted only three weeks before the laparotomy. The tumor measured 20x13x6 cm. and contained tissue mostly of mesodermal origin, although there was connective tissue suggesting sarcoma and myoma with glia tissue. In the third case, metastases in the vagina, abdomen and peritoneum were found at the autopsy of a woman of 32, nine months after removal of a primary ovarian teratoma. The metastases showed the same teratoid elements, as he describes in detail. This malignant development of the teratoma is ascribed to the polygonal cells found throughout the metastases, which he regards as undifferentiated cells of such an early embryonal type that they do not belong to any germinal layer. He warns, therefore, that the presence of these undifferentiated cells in such a tumor should suggest a malignant character. The article is illustrated.

146. **Research on Involution of the Thymus.**—Jonson gives an illustrated description of considerable research on involution of the thymus in rabbits. The special research described was on the involution during starvation and the regeneration of the gland when feeding was resumed.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

GENERAL PATHOLOGY. By Ernst Ziegler, Professor of Pathologic Anatomy and of General Pathology in the University of Freiburg in Breisgau. *Translated from the Eleventh German Edition* (Gustav Fischer, Jena, 1905). Edited and Brought up to Date by Alfred Scott Warthin, Ph.D., M.D., Professor of Pathology and *Director of Pathologic Laboratory in the University of Michigan*, Ann Arbor. Cloth. Pp. 781, with illustrations. Price, $5.50. New York: William Wood & Co., 1908.

INTRODUCTION À L'ÉTUDE CLINIQUE ET À LA PRATIQUE DES ACCOUCHEMENTS: Anatomie—Présentations et Positions—Mécanisme—Toucher—Manœuvres—Extraction du Siège—Version—Forceps. Par L. H. Farabeuf et Henri Varnier. Paper. Pp. 488, with illustrations. Price, $3.00. Paris: Georges Steinheil.

A MANUAL OF OBSTETRIC TECHNIC. By Joseph Brown Cooke, M.D., Adjunct Professor of Obstetrics in the New York Polyclinic Medical School and Hospital. Cloth. Pp. 253, with illustrations. *Sixth Edition. Price,* $1.25. *Philadelphia:* J. B. Lippincott Co., 1908.

OBSTETRIC AND GYNECOLOGIC NURSING. By Edward P. Davis, A.M., M.D., Professor of Obstetrics in the Jefferson Medical College, Philadelphia. Cloth. Pp. 436, with illustrations. Third Edition. Price, $1.75. Philadelphia: W. B. Saunders Co., 1908.

A TEXT-BOOK OF DISEASES OF WOMEN. By Charles B. Penrose, M.D., Ph.D., Formerly Professor of Gynecology in the University *of Pennsylvania*. Cloth. Sixth Edition. Pp. 550, with illustrations. Price, $3.75. Philadelphia: W. B. Saunders Co., 1908.

TEXT-BOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professo [illegible] the University of Chicago and in Rush Medi [illegible] Pp. 557, with illustrations. Price, $3.00. [illegible] Saunders Co., 1908.

REFRACTION OF THE EYE. By Harry C. Parker, M.D., Clinical Professor of Ophthalmology, Indiana University School of Medicine, Indianapolis. Cloth. Pp. 201, with illustrations. Price, $1.25. Philadelphia: W. B. Saunders Co., 1908.

OBSTETRICS FOR NURSES. By Joseph B. De Lee, A.M., M.D., Professor of Obstetrics, Northwestern University Medical School. Cloth. Pp. 512, with illustrations. Price, $2.50. Third Edition. Philadelphia: W. B. Saunders Co., 1908.

CLINICAL DIAGNOSIS. By Charles Phillips Emerson, A.B., M.D., Late Resident Physician, The Johns Hopkins Hospital. Cloth. Second Edition. Pp. 686, with illustrations. Price, $5.00. Philadelphia: J. B. Lippincott Co.

REFERENCE HAND-BOOK FOR NURSES. By Amanda K. Beck, Graduate of the Illinois Training School for Nurses. Flexible Leather. Pp. 199. Second Edition. Price, $1.25. Philadelphia: W. B. Saunders Co., 1908.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, United States Army. Second Series. Vol. xiii. Periodicity-Prussia. Cloth. Pp. 929. Washington: Government Printing Office, 1908.

SURGICAL MEMOIRS AND OTHER ESSAYS. By James G. Mumford, M.D., Instructor in Surgery, Harvard Medical School. Cloth. Pp. 358, with illustrations. Price, $2.50. New York: Moffat, Yard & Co., 1908.

THIRD ANNUAL REPORT OF THE ASSOCIATED COMMITTEES OF THE MASSACHUSETTS MEDICAL SOCIETY FOR THE PREVENTION AND CONTROL OF TUBERCULOSIS. July, 1908. Paper. Pp. 63.

MEDICAL COMMUNICATIONS OF THE MASSACHUSETTS MEDICAL SOCIETY. Vol. xx. No. III, 1907. Paper. Pp. 758, with illustrations. [illegible] David Clapp & Son, 1907.